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PHILOSOPHY IN FRANCE, 1913–1914.[1]

LOUIS COUTURAT is dead. During the first days of the war, when the bustle and commotion on all high-ways was at its height, the carriage in which he was traveling was run down by a heavy automobile, rushing at top speed. He was killed at once. The public at large can have no idea of the extent of this loss. But those who are engaged in the study of logic, logistics, mathematical philosophy, and the philosophy of language, know that in these fields he held first rank in France. His first-hand information on some questions was unique; but it was surpassed by the power and quality of his mind. He had in him none of that surface originality which displays itself in unexpected formulas and striking phrases to pique the attention. But he possessed the rarest kind of originality: he illuminated every study that he undertook. With a natural gift for deductive reasoning he united that absolute moral rectitude which never accepts a dubious compromise, even in the most abstract thought, and that tranquil confidence in truth which knows that "reason will always be right in the end." And this is why all his works impart the charm of fine and sincere clearness,—a quality which hostile critics of the French mind often regard as the opposite of profundity, but which, on the contrary, is inseparable from true profundity, such as is shown by solid, conscientious, precise intellects, who do not take delight in accessory complications but always go directly to what is *essential*.

To begin with, as a brilliant student in the literary section at

[1] Translated from the French by Dr. Alma R. Thorne.

the Ecole Normale, where he graduated with first rank in philosophy and wrote a thesis in excellent Latin on *Les Mythes de Platon*, he had formed a taste,—under the influence of the lamented Jules Tannery[1]—for mathematical philosophy. Here also he took first rank at once through his principal thesis, *L'infini mathématique* (1896), a great work which is still the best guide for those who desire to take up this kind of study. In the first part of the book the technical generalization of the idea of number was studied; in that connection he gave a philosophical analysis of the infinite and of continuity, in harmony with contemporaneous mathematical work. Then taking up again, as a logician, the ideas of number and magnitude, he established their fundamental characteristics and refuted almost line for line Renouvier's celebrated arguments against the infinite, abstract or concrete. He showed that there is no contradiction inherent in the idea, provided one define the question at issue with precision. Going back ultimately to the antinomies of Kant, he discovered there a flaw in logic, rising out of a confusion between the infinite of reason and the infinite of the imagination. "In conclusion," he said, "in spite of criticism, metaphysics is possible; and in spite of neo-criticism, an infinitistic metaphysics is probable."

The study of the infinite led him to Leibniz. He undertook to reconstruct the logical conceptions of that great thinker and to establish their connection with his metaphysic. After having compared scattered texts in the various fragmentary editions extant, he saw the need of verifying and completing his results by means of an investigation of the unedited fragments. He went to the Hanover Library to consult its rich collections of the unpublished manuscripts of Leibniz. "I never expected to do more than to glean after the editors," he wrote, "but I gathered in such a heavy harvest of new documents that I have been obliged to recast my book entirely, and wholly to rewrite certain chapters."[2] Two works resulted from this labor: a volume of Leibnizian *Inédits* containing more than two hundred

[1] Philosophical Review, XXII, 4, p. 366.

[2] *La Logique de Leibniz*, Preface.

new fragments, some of them of the greatest philosophical interest; and a large work called *La Logique de Leibniz* (1901), possessing incomparable precision and a wealth of documentary material. In this book he shows us a phase of Leibniz's genius formerly neglected in favor of the theological and metaphysical speculations. In the notion of judgment, as defined in the *Discours de métaphysique* and especially in some of the fragments collected in the *Inédits*, Couturat discovered the very principle of the *Monadologie* and *Théodicée*.

Simultaneously Mr. Bertrand Russell was publishing his *Philosophy of Leibniz*, in which he arrived by another route at very similar conclusions. For several years Couturat had had relations with Mr. Russell, though in connection with other questions. He was engaged with M. Cadenat's French translation of Russell's *Principles of Geometry*, to which he had added with the author's consent a few notes of his own. The coincidence of their labor on Leibniz, begun without any preliminary exchange of views, naturally augmented the friendliness of their relation. In a series of articles for the *Revue de Métaphysique* (1904), later collected in one volume, Couturat introduced Mr. Russell's *Principles of Mathematics* to the French public. The book soon became widely known among philosophical mathematicians. How much attention Couturat devoted to this kind of questions is easily seen by noting the list of the articles which he wrote on such subjects for the *Revue de Métaphysique* and the *Enseignement mathématique*. Perhaps the readers of this article may recall his discussions with M. Poincaré, in which the celebrated mathematician often found his adversary better armed than he was himself, and on some points invincible. Meanwhile he was publishing in the *Scientia* collection an abridgment of Schröder's *Algèbre de la Logique* (1905). The course in logistic which he gave in 1906 at the Collège de France (as a substitute professor for M. Bergson in the chair of modern philosophy) was highly appreciated by the few who are capable of judging that kind of work. His introductory lecture (on "La Logique et la Philosophie contemporaines")

is a vigorous plea for 'pure' logic as opposed to the psychologism of pragmatism. It appeared in the *Revue de Métaphysique* in 1906.

But the study of Leibniz led him, on the other hand, in a new direction which soon absorbed all his attention. Among the great hopes which the author of the *Nouveaux Essais* had had was that of discovering a universal language, logically constructed according to principles analogous to those of algebra, and capable of giving men an international means of scientific communication and analysis. In the unedited fragments which he brought to light Couturat had discovered several important documents upon this point; and in the *Logique de Leibniz* he had shown how Leibniz all his life long had entertained, revised, and perfected this project. Gradually the great philosopher convinced his historian, who set to work to study for himself the question of artificial languages. First he made a historical study of the subject, to find out what had been done in the field. This investigation was entirely new, and the results astonished many readers; they formed a great octavo volume published in 1903 with the collaboration of a distinguished mathematician, Professor Leopold Leau.[1] This history, which begins with Descartes, analyzes at greater or less length, according to their importance, about sixty artificial linguistic systems; but it shows especially something which could scarcely have been foreseen,—that there exists in the succession of these systems a kind of progress, a gradual rationalization, which impels them toward a final state capable of definition. There exists therefore a type of international language which is, so to speak, necessary and virtually preformed, the completion of which would realize the idea of Leibniz; at least in so far as it serves to give civilized people an easy and more precise means of communication than do their natural languages themselves.

As soon as he had made this discovery, M. Couturat considered it his duty to devote himself to the realization of the project.

Of all the artificial languages whose mechanism he had studied,

[1] *Histoire de la Langue universelle*, by Louis Couturat and Leopold Leau, Hachette, 1903.—A second edition was published 1907 and another work, *Les Nouvelles Langues Internationales*, appeared in 1908.

the most nearly perfected then was Esperanto. But even this left something to be desired upon certain points. *La Délégation pour l'adoption d'une langue auxiliare internationale*, representing a great number of commercial and scientific societies, had adopted Esperanto with the reservation of making a certain number of modifications which would constitute a simplified and revised Esperanto, known since then under the name of *Ido*.[1] M. Couturat ardently devoted himself to pushing this to the last degree of perfection and to popularizing it. With his turn of mind and his logical ability he established a system of general derivation, founded on an analysis of relations, which made of the language a logical mechanism of remarkable precision.[2] He was supported by linguists of the first rank, notably by Professor Jespersen of Copenhagen. But there arose some extreme difficulties. Certain leaders of the Esperanto movement had appeared ready to welcome improvements at once. M. Couturat, for his part, thought to serve their cause and expected the most favorable coöperation from them. But a contrary and powerful party was formed which refused to admit the least modification, even when visibly advantageous.[3] Any sort of change seemed to them to indicate a lack of loyalty to the work of their master, Zamenhof, as well as a danger to the spread of their language. On the other hand, M. Couturat would not allow any sacrifice of the scientific ideal to these personal considerations, or even to questions of opportunity. He said,—quite rightly, it would seem—that it would be impossible to perfect a system after it was already crystallized by general usage. These were years of strife and sometimes painful discussions, during all which this indefatigable worker, at the cost of admirably regular daily labor, realized at least all the scientific

[1] *Ido* was at first the pseudonym of M. de Beaufront, an Esperantist who had had a very great share in the elaboration of these reforms.

[2] See: Couturat, *Etude sur la dérivation dans la Langue Internationale*, Paris, Delgrave, 1910. The first edition, printed in 1907 under the title, *Etude sur la Dérivation en Esperanto*, was addressed especially to Esperantists and has not been put into circulation.

[3] For example, besides the regular formation of derivative words, the suppression of consonants with a circumflex over them or decomposed into digraphs; the more complete internationalization of radicals, etc.

part of the work which he had assigned himself. With the collaboration of the international Academy of Languages, created in 1909, he built up the complete vocabulary of *Ido* upon the logical principles of derivation which he had established; published dictionaries for the usual language[1] and for technical vocabularies; and edited from 1908 to his death a monthly magazine, *Progreso*, entirely in Ido and easy for any cultivated man to read almost at first sight. There appeared also several scientific articles of great interest.[2]

This special labor did not distract his attention from philosophy. In proportion as he plunged more deeply into linguistic work this great rationalist perceived the need of clarifying and coördinating its principles. I called attention in a previous article[3] to his paper, *Sur la structure logique du Langage*, and his communication of January, 1912 to the Societé de Philosophie. He returned to the subject the following year, in an article, *Pour la Logique du Language*. At the same time he was collaborating on the *Vocabulaire technique et critique de la philosophie*, which the society publishes, giving first a careful critique of the text and then a proposal of international roots, capable of adaptation to a system of methodical derivation for an artificial scientific language such as that on which he was working. Finally, he had just given to the *International Encyclopaedia of Philosophy*, organized by M. Ruge, an article of some length entitled "Les Principes de la Logique," which contained six chapters on propositions, propositional functions, concepts, relations, methodology, and the logic of language.[4]

It was in the midst of such activity, so vigorous and fruitful, that a tragic accident removed him from his field of labor, in the fullness of maturity, when he was only forty-six years old. If the

[1] New dictionaries of greater length, which he had just finished, are now being printed.

[2] Notably a resume of the *Cours de Grammaire générale* by M. Meillet, a professor at the Collège de France in 1911–1912. The book has a philosophical character in many of its parts. (Delagrave, editor).

[3] PHILOSOPHICAL REVIEW, XXII, 4, p. 373.

[4] Translated into English by B. Ethel Meyer, in the *Encyclopædia of Philosophical Sciences*, Vol. I, *Logic* (under the editorship of Sir Henry Jones). London, Macmillan, 1913.

soil of old Europe is as yet too much ravaged by barbarism to allow the works of peace to come to fruition there just now, may the good seed which he sowed with so much courage grow and ripen in America!

II.

When we turn to general philosophy there is another man recently deceased who must be mentioned first of all. Alfred Fouillée, tireless worker that he was, left among his papers a book which was nearly finished and which has now been published by his old pupil, M. Boirac, the present rector of the Académie de Dijon. Its title is *Esquisse d'une interprétation du Monde*. Those who know already the work of Fouillée will read with pleasure this metaphysical synthesis of his ideas; but in particular those who do not know his work will find here in a brief form and an easily understood style the systematic exposition of his whole philosophy;—it might almost be said that they will find here an outline of contemporaneous philosophy, especially of French philosophy. It is a very instructive document on the ideas and theses upon which discussion has fed during these last few years, with a mention of the most representative works dealing with each point. Although he lived long in retirement and had not taught since 1878, Fouillée zealously kept himself in touch with all that was being discussed in philosophical circles and with all the important works. The first part of his book is a critical review of some of the 'interpretations of the world' which have been current in our epoch: the idealistic interpretation, as given by M. Lachelier; the phenomenalistic interpretation, of which Renouvier furnishes the type; the interpretation in terms of extension and motion, which is purely mechanistic, and though adopted by many scholars of to-day, is a continuation of the Cartesian tradition; the pluralistic and pragmatic interpretation, to which he had previously devoted one work; the 'interpretation in terms of duration' or the Bergsonian interpretation; the evolutionistic interpretation, either Spencerian or Nietzschean, —or the contrary type which he calls 'dissolutionistic'; and finally the interpretation of the world in terms of energy, in

connection with which he gives a vigorous critique of energism and of its verbalism when it is transported from the domain of pure physics to that of things in themselves. Like Leibniz, Fouillée believes that every doctrine which is really thought contains in itself a principle of truth which animates it; it does not require refutation, but merely correction and modification, —modification through the absorption of each particular view in a more comprehensive view. To this he devotes the second part of his work,[1] which points out the possible reunion of all the familiar doctrines of our time in the three theses of, first, *idées-forces*, which are shared respectively by the philosophy of intellectualism and the philosophy of action; second, auto-determinism, which makes us see the world as a work in which we participate; and finally, the *volonté de conscience*, which, like a perpetually tense spring, sets the whole machine in motion. The will to live, the will for power, are only imperfect approximations of this. Life and power which are unconscious are equivalent to nothingness, and the will could not will them. Has man ever envied the terrible but unconscious force of an earthquake? The will for power is chiefly the will to come into full self-consciousness and to hold a large place in the consciousness of others.

This consciousness of others must be conceived as essentially defined by reason. In opposition to pragmatistic voluntarism and the philosophies of intuition, Fouillée vigorously defends the cause of rationalistic, or intellectualistic voluntarism. In spite of all the present-day agnostics, he remains convinced of the principle of universal intelligibility. In that respect again he holds firmly to the Leibnizian tradition. But I have already spoken in these pages of his preceding work, *La Pensée et les nouvelles Ecoles anti-intellectualistes*.[2] It is enough here to recall this characteristic feature, the 'will for consciousness,' which serves to define the book.

We may connect the book of M. Fouillée with that of M.

[1] I am speaking of ideas and not of the material division. The positive theses of M. Fouillée and their justification are found both throughout the volume and in the form of appendices.

[2] Philosophical Review, XXI, 3, pp. 291–294.

Louis Weber, *Le rythme du Progrès*. In spite of the modest sub-title, "Etude sociologique," by which he voluntarily limits its bearing, it is really a general philosophical idea which he has expounded: a view of the whole of human progress is possible only by means of a philosophical view of reality. In one sense, we depend on reality: M. Weber is a transformist and does not doubt that the human race is the prolongation of animal races, very akin to that of the ape. In another sense, reality depends on us; because the world is known to us only by means of the laws of our thought, and to discover the rhythm according to which thought has developed is to determine beforehand certain fundamental traits of nature which thought will represent to itself. The dualistic conception of progress, as M. Weber conceives it, ends by confirming partially, but also by limiting the philosophy of pragmatism.

This is his central idea: the rhythm of progress is neither the linear progress which Condorcet conceived, nor the succession of the three stages recognized and vulgarized by positivism, nor the passage from homogeneity to heterogeneity, which Spencer used as the basis of his philosophy. It consists in the repeated alternation of two moments: a technical period, dominated by impulse, by practical creation, action, and, later, by industry; a period of reflection, dominated by intelligence, consciousness of self, disinterested scientific thought, and philosophy.

In the beginning, that is to say, in the most remote period which our thought can reach, man must have been an industrious animal,—superior no doubt to other animals, but one utilizing the properties of stone for striking very much as the bird utilizes the resistance of the air for flying. It is even possible that the primitive techniques have thus been consolidated into instincts; for M. Weber does not see, as M. Bergson does, a radical divergence between these two, but, rather, a close relationship. Nothing appears to him more conservative than the domain of handicrafts: "they are traditions, and possibly the prototypes of all tradition." Here the *positif* is not a late stage of evolution; it is its beginning.

But among these techniques there developed one which presented exceptional and particularly fruitful characteristics: language,—whether by gesture or by sound. Words, as Noiré well saw, are tools; but Noiré did not deduce from this idea all its consequences. In the labor done by means of the axe, the hammer, the needle, there were formed associations of images which contained in germ the mechanical conception of the world. When man speaks, on the other hand, and when by speaking he makes one of his kind come to him from a distance, he forms the idea of a different kind of causality, that of a world which is immaterial in appearance, and in which remote actions rule; these are afterward regarded as magical actions, and later as spiritual actions.

This technique of language depends on the anatomical constitution of man, in so far as he is an animal; but it is greatly broadened under the influence of social life. "Between the forces which words set free no individual experience may decide; it is the tribe which establishes between them the imaginary hierarchy to which it remains thereafter faithful, without suspecting that it prostrates itself before the phantoms of its imagination."[1] It is the tribe, too, which assents to making words the signs of ideas; the work done on words, exchanges of words in the absence of things, give rise to a special mode of activity, which is reflection. "The second moment of the neural phenomenon, the motor discharge, does not come to an end; but the energy expended in movement is concentrated on ideation; and the attention, instead of being absorbed in motor images, is fixed on these objects of ideation. Thus the consciousness of the idea may begin to appear."[2]

Thenceforward there would be an alternation between these two forms of human activity, the one trying especially to utilize things, the other trying to comprehend their nature, to form an internal image of them having a theoretical and contemplative character. In prehistoric times the end of the paleolithic period seems to have been characterized by an admirable industry; the

[1] *Le rythme du progrès*, p. 175.
[2] *Ibid.*, pp. 203–204.

neolithic period, which follows it, manifests especially a religious and moral activity. To this epoch there succeeds a great epoch of technical progress, a period which we do not know much about, because it manifested itself in action rather than in thought; at this time were invented the auger, the saw, the plane, the tongs, the scythe, the wheel, the lathe, the carriage, the pulley, the loom, the bellows, and the plow. On the other hand, Græco-Roman civilization exhibits before all else a reflective and intellectual period. It is followed by scholasticism, and even by classical philosophy. All of that forms but one great cosmic epoch in which conceptual and contemplative thought largely takes precedence over industrial activity.[1]

In these days technical progress is reviving. The machine tool is an instrument of the second degree. It comes in part from science, but in still greater part, it precedes science. We use a number of forces and agents of which no theory is as yet formed; we make electricity work, without knowing its nature, just as the ancients used fire without having explained combustion. Thence comes pragmatism, which would have had no root in the seventeenth century. Thence also arises the hope of a new period of rational intelligence which will eventually explain all this technique.

Civilization is therefore governed by a law of the alternation of two states, in which man the industrial animal, and man the speaking and social being rule by turns. For Comte, progress tends toward a definite and perfect state, a predetermined limit. The positive state is a stable equilibrium, *infiniti erroris finis et terminus legitimus*, as Bacon said already of modern science, and Kant of his transcendental system. There, in fact, lies a most widespread belief of philosophers. They always want to know the ending of the story. Spencer himself announces the future reign of perfect adaptation. M. Weber proposes that we give up this obsession. "The rhythm of the two states," he says, "is an open one." And yet does he not sketch the end, though very

[1] The thesis of M. Weber was very brilliantly discussed at the Societé de philosophie, notably by Messrs. Parodi, LeRoy, and Meyerson. See the *Bulletin* of the Society, in the numbers for February and March, 1914, pp. 61–140 (Paris, Armand Colin, ed.).

discreetly, in an indication of synthesis? Does he not show the social man and the worker, the thinker and the engineer, mingling their works more and more intimately? Moreover, does he not observe that in the intellect there is not only a unity of synthesis, but undoubtedly a "unity of principle and of substance"? Thus the Alpha would already have preformed the Omega; dualism would give way to unity, and the end, in a certain sense, would go back to the beginning.

Is it possible that this idea will never be entirely absent from philosophy? That is exactly what is suggested most prominently in the book of M. Bonet-Maury,[1] which bears the title, *L'Unité morale des Religions*. It has as an epigraph this sentence from Auguste Sabatier: "In proportion as men live more profoundly and become more intimately conscious of their own spiritual nature, they discover the same altar, recite the same prayer, and aspire to the same end." He tries to prove this by a review of various systems of morals, such as the Chinese, Brahmanistic, Buddhistic, Persian, Hebraic, Mohammedan, and Christian; and he joins thereto the testimony of the international congresses of religion. It must be recognized that so large a review, made in a small volume of two hundred pages, is necessarily somewhat rapid and incomplete. But the idea loses none of its value on that account, and possibly it is more comprehensive than the author himself seems to indicate. It is easy to smile sceptically at dreams of unity. And I admit that in this present time, when one half of Europe refuses to consider the other half as populated with its 'kind,' the ideas of Christian brotherhood, of a common Father, who has made all men in his image, and who would reunite them in his bosom,—all that may seem rather utopian. Nevertheless, let us not lose either hope or faith. We must either renounce all philosophy of 'becoming' and so be lost in the thought of an unintelligible chance, of a simple triumph of momentary force, or we must recognize a *vection*, a progress in a determined direction; hence a scale of values and an ideal. The thought of Aristotle and of Auguste Comte goes to the root of the philosophical problem; the idea of convergence alone gives

[1] Emeritus professor at the University of Paris (Faculty of Protestant Theology).

meaning to transformations. But it must not be understood that this is a finished convergence, reaching its end at a definite date. The error of Auguste Comte was not in conceiving a 'final stage' of the human intelligence, but in imagining that it would be entered upon about 1880, after which it would only be necessary to enjoy it and take one's ease. A 'final state' is never more than an ideal, a point of convergence determined no doubt, but a point beyond all assignable distance, like the vanishing point of parallel lines in perspective. We see it, define it, mark it in a picture; but we can never reach it.

III.

A few years ago Æsthetics received too little attention in France. In the 'plan of studies' for the classes, and in the requirements for the bachelor's degree,[1] instead of constituting an entire section, like logic and ethics, it is indicated merely by a short rubric limiting itself to the words: "Notions sommaires sur le beau et l'art." In the classical treatises on philosophy it frequently appears only as an appendix or as a chapter of psychology, which has led many to mistake its true character and its analogy with the other normative sciences.

A revival seems recently to have begun. The causes for it are too lengthy to enumerate. I will mention, among others, the numerous publications on the History of Art which have appeared during these last few years, and especially such comprehensive works as M. Combarieu's *Histoire de la Musique*, of which two volumes have already appeared and the third is announced; or the *Histoire Générale des Beaux-Arts*, edited by M. André Michel, the tenth volume of which is now out. All syntheses, even though they are not by themselves philosophical, allure the philosopher. It is the same with works that touch upon 'origins'; and whether one understands by that word the prehistoric, or applies it to the appearance in children of the artistic instinct, there is no lack of material.

Moreover, this movement preserves in many respects a peculiarly psychological character. M. Delacroix has given at

[1] See PHILOSOPHICAL REVIEW, XIV, 4, p. 454.

the Sorbonne a course in art, rich in information and closely analyzed, but with the emphasis laid on his own specialty, which is psychology. A special study is made of the relation of æsthetic facts to the common functions of the mind: for example, rhythm is studied from its rudimentary form, the rhythmic character of perception, the rhythmic apprehension of sensorial groups, to its refined use in poetry or music; again, motor coördination and psycho-motor coördination are studied from their rudimentary form in the first movements of a child, from infantile sketching,[1] to the plastic arts. This is not an attempt to reduce the superior forms to the elementary forms; on the contrary, an attempt is made to prevent confusions of this kind and to point out always what new conditions transformed a banal fact into an æsthetic fact. To this positive analysis he joins a severe and salutary criticism, calling attention to the vagueness of a certain number of banal ideas,—the reduction of art to play, the theory of *Einfühlung*, etc. I know how much this course has been appreciated by those who have had the good fortune to hear it. He has presented the facts, and promulgated ideas which cannot fail to be influential.

If we pass now from the chair to the texts, we find in many of them this same psychological character. In M. Kostyleff's work, *Le mécanisme cérébral et la pensée*, nearly half of the book is devoted to a discussion of poetic and literary inspiration. *Le sentiment de la nature et son expression artistique*, by M. Dauzat, is a kind of psychological album, in which there is gathered a rather happy choice of landscapes, classed sometimes according to their *genre* (as field, sea, mountain, forest), sometimes according to epochs and races. Each category is illustrated by typical examples, by references to pictures, or by citations from poets and prose writers. The author's chief aim is to analyze the elements out of which are formed both a feeling for nature and the means by which writers and painters have succeeded in evoking it. Without doubt he does not entirely abstain from passing judgment. But it is exceptional.

L'esthétique de la Lumière, by M. Paul Souriau, a professor

[1] See, in particular, the very curious monograph of M. Luquet, entitled, *Les Dessins d'un enfant.*

at the University of Nancy, is also particularly psychological in character, but in a very different way, and it is much more scientific and compact. M. Dauzat writes for the general public; M. Souriau for technicians or philosophers, who are able to make an effort to give sustained attention and to take an interest in minute analyses and precise discussions of theories of perception. In this book 'Æsthetics' is used from the very beginning in its true etymological meaning as a science of the sensation of light, and its different varieties; then, as application and consequence, the science of its relation to the sense of beauty. So it comes about that coloration, intensity, diffusion, orientation, heightening of light, the scale of light-values in a picture through its relation to that of nature, are at first studies in themselves, then studies from the point of view of the effect which they produce, for the determination of distances, the boldness of the relief, the delicacy of the model, or the affective expression which they suggest. Being given an 'effect' which is incontestable, for example, the strong luminosity of a picture by Claude Lorrain, or of an aquafortis engraving by Rembrandt, he discloses the mechanism which produces it: in the one he shows the mingling of a central effect of false light with the diffusion, reflections, and sight-lights, which are combined in it; in the other, he shows the process of leveling down on one side all the lights and on the other side all the shadows, while carrying them to their maximum intensity. The appreciative point of view, properly speaking, as it is revealed in this book, tends especially to point out what education the artistic enjoyment may receive from a technical analysis, and the conclusion is a brief complaint against those who think they see an antagonism between science and the sense of the beautiful.

It is not so in the case of the work of M. Paulhan, *l'Esthétique du paysage*, although the author is best known as a psychologist. In the first lines the question of value is put in the foreground: "Why are there landscape artists? Why are people interested in their works? Certain æstheticians regard the landscape as a secondary genus: should their judgment be accepted or revised? And why?" If he mentions realism it is

to comment with marvelous keenness upon the injury which a too exact imitation may do to the value of art in the proper sense of the word. I know no better comment on the profound saying of Topffer: "The painter, in order to imitate, transforms." No doubt the psychologist is found repeatedly on the side of the æsthetician, who cannot do without him; but it is in the same way and with the same necessity that he is found on the side of the moralist who seeks to define good and evil. For example, psychology—we might say experimental psychology—refutes the current theory that painters reproduce nature in different ways because their eyes tend to perceive it in different ways. But this statement would not have so great an interest if it did not teach us that we must judge the transcription made by a painter as we judge a piece of reasoning, a feeling, or an action, and not as we judge a piece of individual anatomy. When he says that three words sum up the difference between the picture and nature,—simplification, generalization, transformation,—it is necessary to understand that these are the characteristics of the *valuable* work and not those of any worthless daub. The proof of this is shown immediately by reference to Rosa Bonheur's "Labourage nivernais," in which there is not enough simplification, and in which the too high finish of the clods of earth is a fault. The chapter devoted to "the soul of landscapes" is primarily a penetrating analysis of expression, of its importance and its media: it is a chapter which makes it easier to *understand* certain pictures; but it is a question here of judging and not merely of understanding; and the conclusion of M. Paulhan is that "La Tempête," by Ruysdael, takes as high a rank as "Les Bergers d'Arcadie"; that landscape painting rises to the heights of human poetry, philosophical poetry, "great art." If it is true that "art has a thousand *admirable and legitimate* forms," it is no less true that "all the schools are not of equal worth, and it may be that some of them are worth nothing at all."

Finally the normative point of view, and even the claim for this point of view, *ipso verbo*, are shown in the *Introduction à l'Esthétique* by M. Ch. Lalo. Perhaps he even assimilates the

'normative' a trifle too much to the 'prescriptive' and to the 'imperative.' In the domain of art it is difficult to prescribe an order of values; appreciation, which is in other respects a less authentic species of the normative genus, is here of supreme importance. But in this case the difficulty is perhaps due only to a somewhat lax use of words. As a compensation, the decidedness of M. Lalo's point of view happily contrasts with the vague generalities which are so often found in 'dogmatic' æstheticians; and whether we accept his opinion or not, it furnishes a lively note, very agreeable in the midst of so much that is colorless. When he overwhelms the impressionistic critique, "the false *genre* which thinks to be itself a work of art in the criticism of works of art, and which unceasingly oscillates between the need and the impossibility of erecting values into absolute norms," one would like often to add marginal notes, but there is evident a depth of common sense and of reason which sets one's mind at rest. When the author gives us in his book an example of intelligent dogmatism, of scientific æsthetics, one may rightly demand a finer distinction between the social and the 'synonymic,' between the objectivity of values and the objectivity of the laws which govern the genesis and transformation of values. Some remains of old evolutionistic plaster may be perceived among the good freestone; but the freestone remains, and that is the important thing. The way in which he enumerates, demonstrates, and discards "the false problems of the æsthetic method" may be accounted a useful and vigorous clearing-up.[1] It will be easier to discuss the true problems of this science if they are defined and reduced to the following three points: Are there values in art, or only facts? Are these values individual, or impersonal? Specific, or reducible (as Wundt believed) to more general norms? These, it would seem, are only the problems relative to the possibility of an æsthetic. If one wishes to limit himself, as M. Lalo declares he is doing in his work, to the statement of the "prolegomena to all future æsthetics which would claim to be a science," these problems are in fact the essential ones; all that one could say, at most, is that the first

[1] "Should æsthetics be inductive or deductive? Metaphysical or positive? Unique or divided among specialists?"

two questions are really one; that there would be no values at all if our appreciation of the beautiful were merely individual and subjective. But does it follow therefrom that these are the fundamental problems of æsthetic method? This is much like saying that the fundamental problems of biological method consist in knowing whether or not truth and falsity exist, as universally valid terms, and whether or not life is reducible to physico-chemical forces. Yet, exhaustive or not, these problems are real and well put. M. Lalo brings to their solution a very praiseworthy contribution. The distinction which he makes between the beautiful in art and the beautiful in nature, and, in the latter, between the two sentiments which he calls *anesthétique* and *pseudesthétique*, certainly marks an advance in analysis. He calls that the anæsthetic feeling for nature which rests directly upon wellbeing and satisfaction, such as comes from a sense of repose and freedom, an easier and more oxygenated respiration, an emancipation from conventions and social cares; in short, which comes from man's return to his true physiological *milieu;* for our body has not evolved so rapidly as our technology, and in our manufactories, stores, offices, libraries, and laboratories it remains much as it was formerly in the chase, the keeping of flocks, or the tilling of the soil. The pseudo-æsthetic feeling is quite different: it is that which denotes the perfection of a being in its own *genre*, the biological excellence of an animal well-balanced and perfectly adapted, a perfect type of his species and of the qualities which assure its continuance: such a specimen is a superb linden tree, standing by itself in a rich soil, freely developed in all the luxuriant force of its vegetation and not threatened with any obstacle to destroy or disfigure its characteristic form. In the first sense, all nature is beautiful; in the second sense, it is only those rare specimens selected from among all the individuals whose vital effort has more or less miscarried. Finally comes the beauty properly known as æsthetic beauty in art, which is intimately allied with technique, and which assumes, on one hand, a material and special processes of translation, and, on the other, an individual temperament which expresses itself at the same time that it reproduces (and transforms) an external datum,

or plays freely in the realm of sonorous images. And this beauty, in its turn, goes back to the natural objects, makes us apperceive them by means of the categories and the habits of the artist,[1] and makes us say of a landscape that it is a 'Corot'; whence comes a third form of beauty in nature, which differs from the first two and which properly merits the name of æsthetic beauty. It is produced when chance or the physical play of light puts before adequately trained eyes a picture which might be regarded as designed, though it may not be.

Accordingly, M. Lalo makes a great deal of technique, and less of nature. In the worship of Nature which most artists affect he sees scarcely more than a pious tradition, in which faith is not always present. Realism seems to him, in æsthetics, a most unfruitful doctrine, since its effect would be precisely to abolish the specific and normative character of art values. But is it therefore necessary to proclaim, as he does, that "the true artistic faculty is the consciousness of the trade"? Is it necessary to adopt, as he also does, the equivocal and dangerous ideal of 'art for art's sake,' the barren motto of art and sport? This aspect of the theory and the absence, as pointed out above, of a distinction between the collective and the synonymic, appears still more in the article by the same author, entitled, "programme d'une esthétique sociologique."[2] In spite of the excellent suggestions on method which the article contains, these views limit very narrowly its controlling idea. It seems to me that it is possible, without absorbing the æsthetic ideal into logic, ethics or sociology, to maintain (at least as a working hypothesis) a view which would be more readily defended, more easily harmonized with a philosophical view of human nature, and more truly expressive of the value of æsthetics.

[1] "The greatest benefit derived from artistic education," says M. Souriau in the work mentioned above, "is that which comes from teaching us how to enjoy better the beauty of things. When we have learned to take pleasure in a combination of tones in a picture, in the quality of a tint, we shall better appreciate their value as we discover them in the real world. Suppose we accustom ourselves to regard the world as do colorists: we shall admire the velvety darkness of the night, the transparency of a projecting shadow, the dull gleam of a twilight pool, the delicacy of the gray tints in a clouded sky or in the effects produced by a mist. . . ." *Esthétique de la lumière*, p. 62.

[2] *Revue Philosophique*, July, 1914.

IV.

We shall not be leaving the domain of philosophy very far if we speak of a movement that is chiefly psychological in character. This movement, which has become widely extended in the last few years, is frequently though incorrectly spoken of as 'objective psychology'; it might be called, with more accuracy, *the psychology of reaction*.

What is psychology? It is extremely difficult to define. Some would define it as the science of the facts or of the states of consciousness; others deny, and not unjustifiably, that there are facts 'of an internal world,' different in nature from an 'external world.' Some find here a study which is capable of grasping reality in the most direct manner, in all its reality, either in a critical sense, as M. Lachelier does in his celebrated article "Psychologie et Métaphysique,"[1] or in a realistic and intuitionistic sense, as M. Bergson does in his *Introduction à la Métaphysique*, or in *Matière et Mémoire*. Others consider it only as the study of an accessory phenomenon of the nervous system, "which could function just as well," they say, "without consciousness as with it." Among all these divergences a doctrine is formulated, at first by the biologists who are devoted to the study of zoölogical psychology, and then by all psychologists together,—a doctrine which has owed its great success to the distinctness of its point of view. It consists in defining animal or human psychology by means of a study of such behavior as is not reflex in character or a stereotyped reaction in the species, but which is modified under the influence of previous states or acts of the individual, as, for example, the behavior of the horse which refuses to cross a bridge on which he formerly met with an accident. To this order of questions belong all the facts of education or spontaneous experience, of training or of initiative, which have been taken to indicate the intelligence of animals. They must be studied entirely 'from without,' as

[1] Published in 1885 in the *Revue philosophique*. This article and, in general, the teaching of M. Lachelier, have exercised the greatest influence on philosophical opinion of to-day. It marks in France the first philosophical reaction against the theories of 'independent psychology,' such as those of Bain, Maudsley, Taine, and Ribot.

one studies a muscular contraction, an attitude, a secretion, without making the least hypothesis as to the mental state of the being who reacts; and yet they are somewhat psychological in character, in the sense in which the word is taken when applied, in the case of man, to the prediction of the conduct of a given individual under certain circumstances.

The work of Russian psycho-physiologists, particularly that of Pavlov and of Bechterev, has greatly reinforced this point of view (which the crabbed and complicated language of M. Nuel a decade ago rendered at first somewhat questionable). In some articles published recently in the *Journal de Psychologie*, the title of which does not fully indicate their importance,[1] Pavlov himself expounded the principle of his method, and Madame Marcelle Dontchef-Dezeuze has just completed a resumé of his entire contribution to pyschology, in a volume bearing the title: *L'Image et les réflexes conditionnels dans les travaux de Pavlov*. Simultaneously there appeared a successful translation (by M. Kostyleff) of the great book of Professor Bechterev, with the title, *La psychologie objective*, which develops analogous ideas.

The central idea is that of the 'conditional reflex,' the so-called 'associated reflex' or 'conjunctive reflex.' All of these expressions are equivalent, and all of them, I regret to say, express their meaning very badly in French. I am not competent to appreciate the good or poor choice of synonyms for corresponding Russian expressions, but it would be very desirable if this phenomenon could be designated in our language by some more satisfactory formula. If we take a dog, for example, we may declare that as soon as we give him a piece of meat, or even if we merely show him a piece, he secretes saliva; and by special arrangement we may easily collect and measure up this saliva. The salivation is a primitive reflex, at least relatively primitive: it is the starting point of experience. Now let us assume that each time we give a piece of meat to the dog, we sound a certain note, for example, the D-natural. At the end of a period of time, varying according to the animal, the mere sound of the D will

[1] "Excitation psychique des glandes salivaires," 1910.—"L'Inhibition des réflexes conditionnels," *ibid.*, 1913.

serve to excite the characteristic flow of saliva which was formerly produced by the coming of the meat. The reflex will have been displaced and associated with a new stimulus. And the remarkable thing is that the C-sharp and the E-flat will neither of them produce the effect: the sound inductor is determined between narrow limits.

Instead of using a note we may use a visual sign, an excitation on some point of the skin, or the removal of an object: the reflex becomes associated with it just the same. In every instance disuse effaces the reaction thus established, while exercise establishes and reinforces it. Diverse influences may exercise upon it a momentary inhibition, which, without destroying the influences, hinders them from producing their effect under certain well defined circumstances. Such is the fundamental fact which would be the basis of the psychic development of all beings, which would engender all experience, and which would furnish psychology with an 'elementary phenomenon' comparable to the mathematician's addition of units or term to term correspondence.

We recognize here, transformed and based on experience, the psychology to which Condillac and the Associationists aspired. That is why these researches are of interest to general philosophy. The highest psychical reactions and the most complex, must have developed gradually from this very simple mechanism. They would be 'superior reflexes'[1] as rigorously determined in their production as the condensation of steam in the pipe of a still. The experiences of Pavlov, hedged about by extreme precautions for the maintenance of the *milieu* in the same state, show a perfect precision of the response of the organism under divers influences which we ordinarily call mental. All the psychic life, we may conclude, from the most simple organisms to the most complex, consists therefore in slight modifications of the chemical equilibrium in the nervous substance. We have a kind of freedom, in the sense that the same

[1] The following are some typical subjects of which the second part of Bechterev's work is composed: "Simple reflexes; neuro-psychic reactions, associated reflexes; imitative reflexes; symbolical reflexes: language (three chapters); personal reflexes: the arts. The social order and imitation."

causes would produce sensibly different reactions, according to what we are,' that is to say, according to the actual state of our nervous system and according to the experience which it has accumulated. But this freedom forms no obstacle to the possibility of enveloping everything in universal representation in which the least important phenomena necessarily result from a well defined law. "A time will come (no matter how far distant it may be) in which mathematical analysis, based on natural-scientific analysis, will embrace in magnificent formulas all these equilibria and will finally attain to being included in them itself.

This ideal of perfect intelligibility, enveloping even the intelligence itself, is an old and splendid conception of philosophy. It is curious to see it revived again by physiologists at a time when physicists, on the other hand, seem to find pleasure in showing up the narrow limits of their theories and the amount of the inexplicable and irrational which they find to be an inevitable residuum in all their explanations. The mathematician himself, in our day, no longer takes science for the expression of the essential laws of reality. It is evident that the biologist gives the physicist and the chemist more credit than they ask him to give. He thinks that if he can consolidate his science with theirs he may attain thereby perfect intellectual satisfaction. Without doubt this is an illusion, but the most stimulating and honorable of illusions. For, if it is not true that one may reach the fullness of intelligibility, the meaning of progress is nevertheless that of increasing intelligibility. To direct one's course on earth it is often useful to imagine that one is traveling toward a star.

In the meantime we must be careful. Is it well, at this time, to approach the higher mental functions in this way? There is a great gulf separating the reactions of the salivary glands from artistic productions and moral appreciations. And that is why we must deny to psychological physiology the right to monopolize for its own profit the name of 'objective psychology.' The objective is not essentially that which is material and experimental; it is that which has the power of putting

[1] Pavlov, "Les sciences naturelles et le Cerveau," *Journal de Psychologie*, January, 1912.

minds in harmony, whatever else may be the process employed to arrive at that result. There is something of the objective in the psychology of consciousness and sympathy; there is something of it in the reflective and critical psychology: one grants as readily the distinction of conscious and sub-conscious, of true and false, as the distinction between sensitive and motor nerves. The objectivity of mathematics, in the branches most widely removed from observation, for example in the geometry of Lobatchevsky, is no less positive than that of biology. Likewise, there is an æsthetic objectivity, however restricted its content may be estimated to be. Therefore let us not confound the objective with the perceptual, or even with the mechanical. It diminishes the extent of the genus to reduce it to one of its species, even if that be its best representative, or the most common.

The psychical life in its most interesting higher form is found in the field of values, appreciations. Assuming that we admit that the psycho-physiologist, trusting to the exactitude of his method and his liking for unity, extends his outlines to the entire field of mind, and that he considers moral judgments as a variety of 'conditional reflexes': strictly speaking, his attitude is legitimate; but he thereby places himself in a most unfavorable situation for the analysis and comprehension of what he observes. In the presence of justice and self-sacrifice he is like a physicist who would fortify himself with a powerful microscope in order the better to perceive the beauty of the Mona Lisa. His description will all be perfectly true, but also perfectly irrelevant. In the field of psychology we need to-day as never before to see things in their normal scale and to guard against the encroachments of a certain form of 'objectivity' which is very good in its own province, but which is only one among other forms of objectivity. What ought to be is not the same thing as what is. In a time when international treaties are derided, when neutral countries are ravaged, children massacred, and the University of Louvain is but a heap of rubbish, it is not fitting that philosophers should let this distinction be obscured.

I think, moreover, that in France the general opinion of cultivated men would be unanimous in claiming its value. I have

just been reading a remarkable article on the subject in *La Paix par le Droit*, by M. Ruyssen, the well-known pacificist who is now a professor at the University of Bordeaux. What can the defenders of "peace through justice" say now? As a matter of fact, they say that the present war has brought them support from unexpected quarters. The journalists and politicians who were most willing to scoff at the Hague tribunal are to-day proclaiming that the end of the war, its justification, is the definite substitution of law for violence in international relations. The real storm, as M. Ruyssen points out in a mass of citations,—has disclosed in France an extraordinary moral unity, the program of which is to combat unceasingly and to the end (which is the destruction and uprooting of militarism in Europe) the mad rivalry of armaments; and especially that ideal of domination and hegemony which is the cause of militarism and which is a permanent menace to the peace of civilized nations. No people has the right to dominate another by force: small and large states should organize between them guaranties of justice, peace, and equality, like those which the citizens of a prosperous republic enjoy. That is the popular *Credo*. So it comes about that flagrant violations of right have brought to light the unshakableness of the idea of justice; and its objectivity, though it may not be the objectivity of a *fact*, is none the less imposed with an equal force of conviction upon the consciousness of all who keep their eyes open.

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BERGSON AND SCIENCE.

THE most casual reader of Bergson would gain the impression that he is under some obligation to science. Strangely enough the opinion appears to be general that science in turn owes nothing to Bergson. To most actions in the world there is a reaction, and there is also some kind of mutuality in most human relations. Science may possibly have something to learn from a great modern philosophy such as that of Bergson.

A universe that is in eternal flux has little place for finality, and finality is the bane of science. If a great industry wishes to carry out a practical research, the difficulty is to find men whose minds are not hopelessly closed by the sense of the finality of their present knowledge. The more elaborate their education often the more hopelessly rigid are their ideas. Every advance of science has to contend, not only with the natural difficulties of a great problem, but also with the ideas of scientific men. As we look back on the history of science, we are slow to admit that the movement has been anything but a steady advance from small beginnings to the present goal. First was the chemical atom. Then the chemical atom was broken up into the smaller atoms—the electrons. That was merely an advance, a progress. The atom of Dalton is still with us. Yes, but this takes no account of the idea of finality that was once attached to the old atom, nor to the prejudice that such finality created in the minds of those who were called upon to contemplate the possibility of that atom's divisibility. Newtonian ideas of gravitation survived the disruption by Faraday of the idea of action at a distance. The achievements of Newton and Laplace have not been disturbed by those of Faraday. But the statement conveys no suspicion of the fact that had Faraday been well trained in the physics of the eighteenth century he, perhaps, would not have had the courage to act upon his own ideas.

The sense of finality is very persistent and stands in the way of growing knowledge. If we think of present knowledge as a

mass surrounded by the boundless space of nescience, we may imagine growth taking place by some kind of addition coming to the surface. But science grows not as a stone by increasing size through mere mechanical addition. It grows more as an organism would. The most apparently insignificant accretion may profoundly change the whole character of the mass of hitherto acquired knowledge. It may help scientific men if they consciously realize that all is a flux, that change is the fundamental nature of reality, and that if we once see things as they are we shall say there is nothing but change, pure mobility. Perhaps the useless, stubborn, obstructing element of human conservatism requires just such drastic treatment.

Science has indeed played sad havoc with the finality of human concepts. A concept is enriched by some experience and soon it acquires a new extension of the intellectual grounds covered by it. Magellan's circumnavigation of the globe gave the concepts 'up' and 'down' a new meaning and an extension of that of 'gravitation' to the motion of the moon in its orbit. Embryology and paleontology so profoundly changed the concept 'species,' introducing continuity into the conceptual realm of biology, as indeed to throw this whole concept into an almost hopeless flux, rendering it incapable of definition. The physical concept of 'mass' is yielding to the modern idea that it is a function of the movement of a body's lines of force extending into boundless space.

In Bergson the concepts take on a new extension and new content. 'Life,' 'Materiality,' 'the self,' 'duration,' and many more on Bergson's pages convey meanings they never had before. It is the nature of philosophical and scientific progress to keep their concepts in a flux. This is true because of the nature of the world in which we live and because of the character of our concepts. The mind approaches reality with certain concepts because they satisfy a human need, give humanity control of reality. The superiority of one system of concepts over another will be determined by their superior capacity for increasing human power. The eternal flux of concepts points to the unlimited capacity of nature to respond to the needs of

men. *Science made* will always assume an air of finality, presenting a logically completed system. From the ever-growing needs of men will come ideas changing the boundaries and content of the concepts of science, disintegrating the old scientific structure and building it anew. The difficulty is that the finalists always possess an advantage and their use of it is shamelessly detrimental to progress. The new ideas can never at first justify themselves. Their origin discredits them. They spring from the domain not of the intellect but of the intuition. Their origin is often very plebeian, more than plebeian. For in the matter of intuition it is believed by some that bees and wasps have a decided advantage over men. But, be that as it may, science in the making comes from the realms of intuition. Out of this fact comes the need on the part of scientific men for some kind of philosophy of intuition. If we are to exercise any conscious control over the advance of science, we need at least to respect, if we cannot understand, the source of new concepts. There can be little doubt that they have an origin outside the domain commonly assigned to the intellect. The most fertile concept in modern physics is that of energy. It was very late in finding its way into science. The intuition of the workers of the world long ago found it. The concept of work expressed that which they gave the world and that which in turn the world valued. The intuition of work, of energy, was involved in the efforts of that endless line of seekers for perpetual motion. But into physics the concept never entered fruitfully until Helmholz tried to explain to his own mind why these seekers for perpetual motion had universally failed in their quest. The latter must involve a violation of some great law of nature. In the effort of these generations of unsuccessful seekers was contained an intuition of the concept of energy which in Helmholz's hands proved so fruitful in multiplying the power of physical science. Bergson expresses the fundamental nature of the quest for a new concept as follows: "In order to generalize we have to abstract similarity, but, in order to disengage similarity usefully we must already know how to generalize."[1] This simply means that intellect alone cannot generalize. Intuition cuts the knot. We

[1] *Matter and Memory*, p. 208.

search the continuum that is reality for that which will satisfy our need. We take that satisfaction where we find it. In this part of the process of forming concepts the lower animals may possess an advantage over us. The coyote who loves kidney fat does not perceive other qualities in the animal in which he finds it. He is simply looking for kidney fat. He 'lives generality.' He does not think it. We too must live it before we shall ever think it. Out of the life of the world spring the concepts which enrich science. These concepts come to science through the intuition of genius. And often, as in the case of the concept of energy, it is the genius of humanity. Nothing can be more grotesque than to demand of scientific ideas a proof of their fertility at their first appearance. Before their final acceptance they will have undergone the most rigorous testing. We are not overburdened with ideas. The world has always suffered from a poverty of them. Science is not all a patient collecting of facts. That alone would never give the smallest advance. The epochs in science have been marked by the advent of new concepts springing from the depths of human intuition.

The other form of finality against which science has had to contend has been a foe in her own camp. Before the days of the researches in radioactivity some physicists believed that the great laws of nature had all been discovered. The discoveries of the future would be in the 'sixth decimal place.' There was nothing to look forward to but greater precision in the statement of laws already discovered. Behind the scenes in our phenomenal world, explaining all its activities, was a perfectly definite mechanical system of atoms and molecules, which predetermined all the events of the material world with scientific exactness. A materialistic philosophy had been built upon this view of the physicist. All the events of the world for ages to come were predetermined by the present state of this atomic and molecular machinery. The revelations of radioactivity set the date of a renaissance in the activities of physicists. The atomic and molecular mechanism suddenly became very complicated. The atom, formerly supposed simple, became a universe in itself.

If a chance discovery in one small department of physical research can so complicate the 'scheme of things,' what assurance can we have that the mechanism lying back of nature's scenes is not infinitely complex, that anyone of a number of phases of that infinite complexity might have been discovered first? It seems absurd to think that the scheme could have been unravelled only in one way. Nature, infinitely complex, could respond to any one of many modes of approach. The course of evolution of science was not predetermined by the nature of science herself already existing in nature, awaiting discovery. The history of science began to assume some significance. Science had hitherto been its own history. Consider the logical form of the completed scientific structure. There in its very logical nature you had the one and only possible story of its evolution. But for a nature explained by a mechanism of infinite complexity there could be as many sciences as genius could suggest ways of approach. Now add to this the idea that these ways of approach spring from human intuition, that each method of approach comes from something unique in the personality of a Faraday, say, then the work of science becomes creative like music and art, and the history of science is determined by the personality of its great masters. Mach, long ago, in his *History of Mechanics*, called attention to the influence exercised upon the course of science by the personality of men. If Faraday had not been possessed of his peculiar intuition of the fundamental character of physical action and reaction, electromagnetic induction would not have been discovered when it was, and the discovery of the law of the conservation of energy would have been much delayed. The course of the history of nineteenth century physical science would have been greatly changed. We cannot think that someone sooner or later would not have discovered electromagnetic induction. Yet we may easily imagine that, without Faraday's intuition regarding the impossibility of action at a distance, the course of investigation and discovery that led through Maxwell to electromagnetic waves and wireless telegraphy might have been delayed a century or so.

Creativeness cannot be described nor its work understood in

intellectual terms. But this does not afford the slightest reason for ignoring its existence. In another field, it looks as though science would be compelled to acknowledge the presence and activity of a creative power—in the evolution of the forms of life. Evolutionists have never been able to give an adequate explanation of the development of a complex organ like the eye. The method of science is to analyze the eye into elements. Now each of these elements must be brought into existence, made a permanent possession, by natural selection. They must be assembled and coördinated. The difficulty is to see how the assemblage of elements can possess survival value at each stage of that evolution. Natural selection could not have preserved a single one of those elements of the functions of seeing without the presence of coördinate elements that make it effective. The great creative force in nature must proceed in some way quite different from that suggested by human logic. Man's mind is only one of the remote tips of one of the upper branches of the tree life, and is of itself unable to explain the processes going on in the trunk.

The creative activity in nature has much in common with that working in the evolution of human science. A fertile idea has survival value from the start. The discovery of Oersted suggested to Faraday the idea of the procedure that led to his discovery of electromagnetic induction. But the idea working in his mind was larger than that of this one impending discovery. His intuition held the germ of the law of conservation of energy. In the intuition that led Faraday in those years and in the discovery in which it found expression was the complete function of what is now known as the electrical transmission of energy. The whole science of electrical engineering is simply that of this one function, viz., the force acting upon a wire carrying a current in a magnetic field—expressing itself in evermore complicated forms. The whole science of electrical engineering was in the intuition that carried Faraday through those years spent in the search for electromagnetic induction. This fundamental function in electrical engineering science possessed survival value at every stage of its evolution, from the vaguest outline of it in

Faraday's physical instincts to the complicated modern power plant. May it not be true that at every stage in the evolution of a complex organ like the eye it possessed survival value, not because it gave expression to what we now call seeing, but to some function, the forerunner of seeing, useful for purposes of survival. Side by side with the evolution such as we would have seen looking at it from the outside and describing it in terms of a mechanical assemblage of the elements to be found only in the perfected organ, was another evolution moving parallel to the first, the evolution of a consciousness, the last expression of which is vision as we now know it. The same thing may be said of the whole of materiality, the whole of our science. No assemblage of mechanical elements will give us a real whole. Each new fact or law of science stands where once was an apparently insurmountable obstacle to an advancement much larger than that particular fact or law. "Everything happens as though the grip of intelligence on matter were, in its main intention, to *let something pass* that matter is holding back."[1] Just before every advance materiality is standing in the way of a movement of the human spirit. All the energy of the spirit is summoned to overcome the obstacle. "The materiality of the machine does not represent a sum of means employed, but a sum of obstacles avoided; it is a negation rather than a positive reality."[2] The whole of our perceptual world is but a small part of reality on this view. The great thing to be considered is that the perceptual, the scientific, the materialistic is not isolable, but maintains the most intimate relationship with a greater reality that will not be made subject to the categories of the mind. In the process of scientific discovery this greater reality is constantly manifesting itself. The problem of the investigator is stated in perceptual terms. The method of attack is in such terms. But the solution comes through something more than a merely logical activity. It is profoundly intuitive. All the perceptual elements of the problem seem to pass into the inner life of the discoverer. Poincaré has described the process of mathematical discovery. The perceptual elements of the problem are first

[1] *Creative Evolution*, p. 183.
[2] *Ibid.*, p. 93.

considered in conscious intellectual activity, where everything assumes a logical form. Strenuous effort is made to effect a solution. This conscious effort fails. After a long season of rest, suddenly, without warning, an attitude that must lead to a successful solution comes up into consciousness. Some would explain the result as the outcome of a subconscious mental activity. This is simply to insist on imposing the logical activities of the conscious mind upon the profounder functions of our nature. The hypothesis of subconscious mental activity is made in the interests of maintaining intellectual activity as the only possible form of rationality. If we knew more we should seek to derive our conscious intellectual activities from the more fundamental ones.

One of the most startling facts concerning human nature revealed by the slightest introspection is this,—of what a very minute portion of our world are we distinctly conscious at any one moment. At any given instant how many of the significant persons and things in life are out of mind. A football player attempting to stop an opponent carrying the ball is absorbed in the momentary action. How much even of the present game is he, at this moment, forgetting. He is not distinctly conscious of the score up to the present instant. The goal is not pictured in his mind. He has probably no visual image of the people in the grandstand. How very much of the game he is playing is out of the player's mind, to say nothing of the countless motives that have had their part in bringing this player into the field. While these things are all out of mind they are not outside the player's being. While he is not distinctly recalling the score, the quality of his present attitude is very accurately determined by it. While he does not in his moment of absorption picture the goal, that goal is directing his present action. Should the spectator on the side lines be withdrawn, something would be taken from the character of his immediate performance. There is in his instantaneous attitude a certain quality that would not be there were it not for the friend who is now far away but who will read a report of the game. When we are absorbed in any given action only a minute portion of our experience is distinctly

figured in its visual outline. But in our attitude are the great purposes of life and the countless things that give us our motives. All our world, at any given instant, lying outside our distinct image of reality, is nevertheless acting in us. It is all there blending into one attitude, one purpose, one special motive, like many tones blending into a single harmony. External phenomena have all entered into a kind of chemical combination with one another, while the separate elements of the combination have lost the individual properties that they possess in the distinct form of consciousness. There is a definite unity in our momentary action, our attitude. The diverse elements of persons and things which blend into the single attitude have lost their individual identity. But they have not passed into a mythical realm of the unconscious. They have become one unified attitude, which will on the slightest hint break up into the diversified elements distinctly visualized. There is a continuity between these two forms of consciousness as they pass the one into the other, this unity passing into multiplicity which breaks in upon that unity with as little surprise as when we awaken to a sense of the presence of a friend in the same room with us after our absorption in a book. The return of a sense of the friend's presence is not like one coming from the dead, for the friend has been in our active mental attitude all the time, no matter how deep the absorption. We know that in some remarkable way the multiplicity of persons and things with which that unity breaks up was with us all the time. This describes one of Bergson's fluxes. The human spirit moves from the realm of this unity, the intuitive, where being and knowing are one, the realm of the uncategorized, the personal, where everything interpenetrates everything else, the realm where we possess only activities and attitudes, where consciousness is qualitative, to the realm of multiplicity, spatiality, where impenetrability is the universal law, the categorized, the logical, the perceptual, the impersonal, the realm of science. Here is a movement that gives rise to the great dualisms in human thought. In the place of these dualisms Bergson substitutes a creative movement. When the ends of the movement are considered the dualism is

absolute. For the riddle of the dualism Bergson would substitute the riddle of creation. But it is to be a creation with an order in it. The great dualism at the beginning and at the end of the movement is to be bridged by the movement itself characterized by a perfect continuity. In a continuous movement of this kind there should be any number of possible points of arrest. The movement in our own consciousness has been made possible by the whole history of our evolution, and evolution is known to cover up its tracks, to erase its continuities. To find as many points of arrest as possible then is desirable in maintaining the hypothesis of such a movement. We can not arrest it at any point we choose. Yet in the great world outside us Bergson finds a similar movement. In it we may distinguish stages. "The movement at the end of which is spatiality lays down along its course the faculty of induction as well as that of deduction, in fact, intellectuality entire."[1] Logical induction and deduction then are points of arrest in this movement. Beyond these points of arrest lie the limits of the movement, spatiality. Other points of arrest are indicated. This is the movement of the supra-consciousness. He says: "Consciousness or supra-consciousness is the name for the rocket whose extinguished fragments fall back as matter; consciousness, again, is the name for that which subsists of the rocket itself passing through the fragment and lighting them up into organisms."[2] This movement of the supra-consciousness is parallel to the above described movement of the human mind. It is this movement of the supra-consciousness that has laid down deduction and induction on its way to spatiality, and which "creates at once the intellectuality of mind and the materiality of matter." But in this movement the supra-consciousness does not go so far into spatiality as does the human mind. The latter has followed the movement of matter towards spatiality but has gone farther and become more spatial than matter is. For modern physics shows that in reality matter interpenetrates. The human mind on the other hand breaks up matter into distinct bodies. This movement is creative, each moment of it shows something unique,

[1] *Creative Evolution*, p. 216.
[2] *Ibid.*, p. 261.

something that is an epigenesis upon all that went before. The movement creates matter, it creates intellect, logical powers and spatiality. The creations are real and absolute. One end of the movement materiality, intellectuality, spatiality, is just as real as the other end which is life, intuition, interpenetration. At the one end we have that which constitutes a scientific order, where prediction is possible. But the movement that creates the scientific order, the movement that is forever re-creating it, is not a scientific order. It is an order such as is exemplified in "a Beethoven symphony which is genius, originality, and therefore unforeseeability itself."[1] These two orders are two forms of rationality that reign over reality. In the scientific realm we have the one form. In the realm of life and intuition we have another form, an æsthetic one, the kind of rationality that is found in a Beethoven symphony. This is giving to rationality a new meaning but we have need of a concept that will cover the whole ground. The movement symbolized by a Beethoven symphony is certainly different in character from any physical movement we know. According to Bergson's theories, it is unique in each moment of it. Each moment of it is something new created, each moment of it presents a difference of kind. Yet the movement is a perfectly continuous one. The total movement results in an accumulation of differences of kind that amount to an absolute dualism when the beginning and the end of the movement are compared. Yet throughout it all a continuity prevails. This is not a movement such as that of a point describing a line, not a movement of spatial changes, but one of qualitative changes. The successive moments of the movement are unpredictable from anything that precedes, like the next step in a curve that is determined by an infinite number of derivatives of successive orders, yet like the next step in the curve, continuous with what went before. This is certainly a new kind of continuity, a qualitative one, but we do to some extent intuitively sense it. If we could re-live the life of the race in the evolution of the human consciousness from instinct to intelligence, we might feel and realize its perfect continuity

[1] *Op. cit.*, p. 224.

and its perfectly creative character. To make this a working hypothesis it is not necessary to re-live history and to experience the continuity any more than the finding of the missing link is necessary to the theory of Darwinian evolution.

If we grant that a movement may be continuous and yet each moment of it have in it something uniquely different in kind from what went before, there is no additional difficulty in understanding how in the process of that movement the human consciousness might create itself into an identity with something which was external to itself in another phase of its being. To make such an action possible, the supra-consciousness and the individual consciousness must interpenetrate, must have much in common. "Intellect and matter have progressively adapted themselves one to the other in order to attain at last a common form. This adaptation has, moreover, been brought about quite naturally, because it is the same inversion of the same movement which creates at once the intellectuality of mind and the materiality of things."[1] In some such way as this we may understand Bergson's claim to occupy a place above both realism and idealism and embracing both.

The order of that movement that starts in the realm where being and knowing are one is the order of a Beethoven symphony, but a Beethoven symphony which is repeated many times in our lives. Each moment of that movement is unpredictable from anything in the preceding moment. Yet from habit we know what to expect, as we do in hearing the great musical composition for the fiftieth time. Thus it is that a certain quality, a certain tone in the inner intuitive life, is always issuing into an outer creation of a character quite definitely related to the inner. In other words there is a definite psycho-physical parallelism between the inner, the personal, the intuitive and the outer, the spatialized, the materialized world; between the order of the Beethoven symphony and the scientific order. The inner intuitive life is the self and the other is the objective world. Bergson's psycho-physical parallelism is not between the physical organism of the individual, and his psychical life, but between the

[1] *Op. cit.*, p. 206.

inner personal life and all outer reality, something of which the human body is but a small part. The parallelism between the two explains Hume's difficulties in his efforts to find the self. "I never catch myself at any time without a perception and never can observe anything but the perception." So completely did Hume find the outer world identified with the self that he doubted the existence of the latter. When Hume, looking for himself, found only a perception, the self had reached the terminus of a movement where it had actually created itself into an outer reality. All he had to do was to stop looking for anything, even the self, and the inverse movement would carry him back into the realm of intuition where the overwhelming sense of self is asserted. The moment that the self tries to picture itself, to give itself form, it moves out into the realm of spatiality where only perceptions are experienced. We know we have a self as long as we do not try to find it. We lose it the moment we look for it. The inner life, the life of intuition, is the self. The creative movement is the expression of the creative effort of the self. At the inner terminus of the movement the self is one with all its past, perhaps one with all reality. Interpenetration is the great fact here. At the outer terminus of the movement is perception, and there the self is at one with as much of a reality as interests it.

Each execution of the movement from inner to outer is much the same, like the great symphony played for the hundredth time. But it is a creative movement, each repetition is never quite the same. The movement itself is in flux. The outer reality is in flux. All the movements are creative. Nature is ever being made anew and always changing. We too are ever changing. The question naturally arises: If nature's inmost reality is changed, where is science possible? Science deals with constancies. Change permeates our world to its inmost core. We may trace a curve with a certain degree of approximation if we know its mathematical law. That is, if we know the derivative of a certain number of low orders of a function, say the first, second and third, provided the derivatives of the higher orders approach constancy over a certain short course of the curve.

But if all the derivatives of the higher orders to infinity are variables, and each derivative a new function, the whole movement of our curve is change of the profoundest kind. Prediction of its course becomes impossible. Likewise it becomes impossible to isolate a something, an unchanging somewhat, of which we may say it is, putting into the 'is' the sense that the something endures unchanged for an appreciable time. This would be the aspect of reality to us if the span of our duration should be indefinitely lengthened. By shortening this span of duration all the higher derivatives of the function approach constancy during the course the curve takes in that short span of duration, and we progress toward a view of reality in which changes are momentarily, at least, inappreciable. Here science finds its province. Here it can trace with some degree of approximation future movements of the curve. Its work is thus relative to the particular span of our duration. But even with this limited span of duration all would still appear changed were it not for the coarseness of our senses which do not detect the incessant change really going on. In the domain of life, of mental life, of psychology, the change is more in evidence and in these fields science must meet some of the difficulties it would experience in the realm of matter itself were the span of our duration considerably lengthened. In such a lengthened span of duration we would say there is nothing but change. We could not say that it is nothing that changes, for the idea of a nothing would itself be inconceivable. Nothing is a negation of something. The idea of something appears only on the indefinite shortening of the 'rhythm of our duration.' When that rhythm is lengthened to an unlimited extent, or when our senses should become unlimitedly appreciative of all changes, no matter how minute, all idea of a something would disappear together with its negative nothing, and the only reality would be change, pure mobility. Science finds its province by carefully defining, stating and respecting its relations to this mobility. Science exists for beings of a shortened duration, of coarse senses, and in fields where apparently unchanging somethings may be isolated. The work of science is never a finality. However, its work is a

part of reality. It is a reality created by the never ending movement of life, and of individual minds which spring from the great life movement. It is a reality in flux. The scientific order occupies for us the commanding position in all the fluxes that constitute reality. As the spirit moves from inner to outer and back, ever enriching and enlarging itself, the scientific order, the perceptual order, is the one cross-section of the whole movement at which we can control everything. The perceptual life gives the intuition its material. The manipulations we attempt in the scientific order are the challenges to intuition to its creative effort. "There are things which intelligence alone is able to seek, but which, by itself, it will never find. These things instinct alone could find; but it would never seek them."[1] Between the two orders of rationality is a remarkable parallelism, a most intimate interrelationship. The scientific order owes its existence to the creative movement of the other order, and it depends upon it for its health and its vitality, and its never ending process of re-creation.

The order typified by the Beethoven symphony must be respected in every process involving growth. Scientific concepts are made and grasped through intuition. Every act of the human being is a creative one, originating in instinct, in intuition and seeking objective expression. Every single act of this kind is only a part of a larger act that is seeking expression, in other words, every creative act is the part of a creative purpose born in the fundamental instincts, the intuition of the personality. These acts and their larger purposes have survival value for the individual; otherwise they would never express themselves. No matter what complex idea may be in the process of being grasped, that part of it that is possessed at any moment must have survival value. There is no such thing as learning the separate elements of a great principle or anything else, each element one at a time, and later assembling them into a whole by a purely mechanical process. The human mind does not work that way. It grasps things by wholes. It dissociates the wholes into elements, but it never assembles mechanical elements into a whole. The first

[1] *Op. cit.*, p. 151.

beginnings of understanding the law of the conservation of energy can be made by a mind that has already enough of that law in intuition to give it survival value for that mind. This survival value comes from the fact that any given act of understanding is part of the larger act, a purpose, yes, a life purpose. The mind acts creatively along lines that associate its special act with life purposes. Every element of a scientific education, whenever we look at it in a partially completed state, must represent what was once an obstacle to the instinctive movements of the whole personality. To this end educational material should not be organized out of the abstract elements into which logical analysis divides it up, but it should be organized into a hierarchy of purposes having an appeal to the instincts of human beings. The world's scientific achievements should appeal to the learner as a system of problems out of which purposes spring, organize themselves, and come to fuller expression. Our courses of instruction should be alive with the spirit of research. But they should present that spirit not alone in terms of its final product but in its origin, in the instincts and the intuitions of the mind. We are very ineffective in our attempts to pass our scientific heritage along to coming generations.

The current ideas of genius are most unscientific. Genius makes its contributions to science through intuition. In all phenomena the principle of continuity reigns. But not so with the prevailing ideas concerning genius. Find a quality that is possessed in a striking way by one object, one may be sure that all objects possess that quality in a degree. All men possess some genius and it is a positive, worth-while asset. The education of every human being must come forth out of his own personality, must be his own personal creation. To facilitate individual effort towards education, the achievements of the race should not make the appeal of a museum with its classified fossils, or of an encyclopedia or even of a textbook with knowledge de-organized, mechanized on some logical scheme. But if human achievement in science is presented in terms of a possible system of organized human purposes, the personality feels the appeal of something it can assimilate. The individual's education must

be an expression of his growing personality, fed by the achievement of the race organized into ends that appeal. The material is in most intimate relationship with the largest spiritual reality. Our interests should be largely in *science in the making* rather than in *science made.* Human genius, human personality even in its most humble form, is an asset of scientific worth. All our power of controlling our world comes from the attempted application of scientific concepts to reality. Bergson is regarded by some as an anti-intellectualist. His whole effort, however, is to apply intellectual procedure to the mastery of the whole spiritual reality. His philosophy represents not a restriction but an extension of intellectual effort. As the mathematician takes that piece of incomprehensibility, the square root of minus one, and operates upon it in a perfectly comprehensible way and obtains useful results, so Bergson seeks to apply intellectual methods to incomprehensible intuition and thus to gain some control over this undoubted faculty. In the light of these ideas science is the pursuit of power, power in controlling our world. The history of science is the history of the growth of human power over the forces and energies of nature, not the discovery of a truth hidden in nature waiting to be found. Scientific and philosophic education is the evolution of the individual's sense of power, the expression of his personality.

The universe is one of order. But there are two kinds of order. The materialistic order is the field of science. The other order typified by the Beethoven symphony is the field of metaphysics. The close interrelationship of these two orders brings science and metaphysics into very close fellowship. Sometimes "science, theory of knowledge, and metaphysics find themselves on the same ground."[1] In such close relationship there is no need of substituting metaphysical explanation of phenomena for scientific. The determination to push scientific explanations just as far as they can be possibly pushed must be persisted in at all hazards. For example, when, in discussing instinct, Bergson speaks of "sympathy between the amophila and its victim"[2] the idea of sympathy meeting a metaphysical need is

[1] *Op. cit.*, p. 198.
[2] *Ibid.*, p. 173.

not used to the end of finally closing the scientific problem involved in the study of instinct.

The modern scientific movement is a new force in human affairs. Repeated attempts have been made to understand its meaning and nature, the real essence of scientific method. We naturally like to reach some kind of an intelligent consciousness of what we are doing. An early attempt in modern times to attain such a consciousness was Bacon's *Novum Organon*. No one would today claim that attempt was wholly adequate. Other attempts followed Bacon's. It is entirely possible that modern philosophies like Bergson's may help us to a clearer consciousness of the real aim and character of natural science.

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KANT'S RELATION TO HUME AND TO LEIBNITZ.[1]

KANT'S manner of formulating his fundamental problem—How are synthetic *apriori* judgments possible?—may well seem to the modern reader to imply an unduly scholastic and extremely rationalistic method of approach. Kant's reasons for adopting it have most unfortunately been largely obscured, owing to a very natural but none the less mistaken interpretation which has usually been given to his own personal utterances. They have been supposed to prove that the immediate occasion of the above formula was Hume's discussion of the problem of causality in the *Enquiry into the Human Understanding*. Kant, it is argued, could not have been acquainted with Hume's earlier and more elaborate *Treatise on Human Nature*, of which there was then no translation, and his references to Hume must therefore concern only the later work. Vaihinger has done valuable service in disputing this reading of Kant's autobiographical statements. Kant does not himself make direct mention of the *Enquiry*, and examination of the passages in the *Critique* and in the *Prolegomena*[2] in which Hume's teaching is under consideration seems rather to point to the wider argument of the *Treatise*. This is a matter of no small importance; for if Vaihinger's view can be established, it will enable us to appreciate, in a manner otherwise impossible, how Kant should have come to regard the problem of *apriori synthesis* as being the most pressing question in the entire field of speculative philosophy. The essential difference between the *Treatise* and the *Enquiry*, from the standpoint of their bearing upon critical issues, lies in the wider scope and more radical character of the earlier work. The *Enquiry* discusses the problem of causality only in the form in which it emerges in *particular*

[1] Written as part of an introduction to a *Commentary to Kant's Critique of Pure Reason*.

[2] These passages are by no means unambiguous, and call for more lengthy comment than is possible within the limits of this article.

causal judgments, *i. e.*, as to our grounds for asserting that this or that effect is due to this or that cause. In the *Treatise*, Hume raises the broader question as to our right to postulate that events must always be causally determined. In other words, he there questions the validity of the *universal* causal principle, that whatever begins to exist must have a cause of existence; and he does so on the explicit ground that it demands as necessary the connecting of two concepts, that of an event and that of an antecedent cause, between which *no connection of any kind* can be detected by the mind. The principle, that is to say, is not self-evident; it is synthetic. The concept of an event and the concept of a cause are quite separate and distinct ideas. Events can be conceived without our requiring to think antecedent events upon which they are dependent. Nor is the principle capable of demonstration. For if it be objected that in questioning its validity we are committing ourselves to the impossible assertion that events arise out of nothing, such argument is only applicable if the principle be previously granted. If events do not require a cause, it is as little necessary to seek their source in a generation out of nothing as in anything positive. Similarly, when it is argued that as all the parts of time and space are uniform, there must be some cause determining an event to happen at one moment and in one place rather than at any other time or place, the principle is again assumed. There is no greater difficulty in supposing the time and place to be fixed without a cause than in supposing the existence to be so determined. The principle, Hume concludes, is non-rational in character. It is an instrument useful for the organization of experience, and for that reason nature has determined as to its formation and acceptance. Properly viewed, it expresses a merely instinctive belief, and is explicable only in the naturalistic manner of our other propensities, as necessary to the fufilling of some practical need. "Nature has determined us to judge as well as to breathe and feel."

From this naturalistic position Hume makes a no less vigorous attack upon the empirical philosophies which profess to establish general principles by inductive inference from the facts of

experience. If the principles which lie at the basis of our experience are non-rational in character, the same must be true of our empirical judgments. They may correctly describe the uniformities that have hitherto occurred in the sequences of our sensations, and may express the natural expectations to which they spontaneously give rise; but they may never be regarded as capable of serving as a basis for inference. In eliminating *apriori* principles, and appealing exclusively to sense-experience, the empiricist removes all grounds of distinction between inductive inference and custom-bred expectation. And since from this standpoint the possibility of universal or abstract concepts—so Hume argues—must also be denied, deductive inference must likewise be eliminated from among the possible instruments at the disposal of the mind. So-called inference is never the source of our beliefs; it is our fundamental natural beliefs, as determined by the constitution of our nature in its reaction upon external influences, that generate those expectations which, however they may masquerade in logical costume, have as purely natural a source as our sensations and feelings. Such, briefly and dogmatically stated, is the sum and substance of Hume's teaching.[1]

Now it was these considerations that, as it would seem, awakened Kant to the problem of *apriori synthesis*. He was, and to the very last remained, in entire agreement with Hume's contention that the principle of causality is neither self-evident nor capable of logical demonstration, and he at once realized that what is true of this principle must also hold of all the other principles fundamental to science and philosophy. Kant further agreed that inductive inference from the data of experience is only possible upon the prior acceptance of rational principles independently established; and that we may not, therefore, look to experience for proof of their validity. Thus with the rejection of self-evidence as a feature of the *apriori*, and with the consequent admission of its synthetic character, Kant is compelled to acquiesce in the inevitableness of the dilemma which Hume propounds. Either Hume's sceptical conclusions must be ac-

[1] For justification of this interpretation of Hume I must refer the reader to *Mind*, Vol. XIV, N. S., No. 54–5.

cepted, or we must be able to point to some criterion which is not subject to the defects of the rationalist and empirical methods of proof, and which is adequate to determine the validity or invalidity of general principles. Is there any such alternative? Such is Kant's problem as expressed in the formula: How are synthetic *apriori* judgments possible?

It is a very remarkable historical fact that notwithstanding the clearness and cogency of Hume's argument, and the appearance of such competent thinkers as Thomas Reid in Scotland, Lambert and Crusius in Germany, no less than thirty years should have elapsed from the publication of the *Treatise* before Hume found a single reader capable of appreciating his results at their true value.[1] Even Kant himself was not able from his reading of the *Enquiry* in 1760–2 to realize the importance and bearing of the main problem. Though in the *Enquiry* the wider issue regarding the general principle of causality is not raised, the scope and meaning of the problem is for us who interpret it in the light of Kant's later speculations made sufficiently clear, and accordingly we cannot be absolutely certain that it was not a re-reading of the *Enquiry* or a recalling of its argument[2] that suggested to Kant the central problem of his Critical philosophy. The probability, however, is rather that this awakening took place only indirectly through his becoming acquainted with the wider argument of the *Treatise* as revealed in James Beattie's extremely crude and unsympathetic criticism of Hume's philosophy.[3] Beattie had great natural ability, and considerable literary power. His prose writings have a lucidity and crispness,

[1] To this fact Kant himself draws attention, "But the perpetual hard fate of metaphysic would not allow Hume to be understood. We cannot without a certain sense of pain consider how utterly his opponents, Reid, Oswald, Beattie, and even Priestley, missed the point of the problem. For while they were ever assuming as conceded what he doubted, and demonstrating with eagerness and often with arrogance what he never thought of disputing, they so overlooked his inclination towards a better state of things, that everything remained undisturbed in its old condition." (*Prolegomena*, p. 6; Eng. Trans., p. 5.)

[2] The word which Kant uses is *Errinerung* (cf. below, p. 293 n). There are two main reasons for believing that Kant had not himself read the *Treatise*. He was imperfectly acquainted with the English language, and there was no existing German translation. And, secondly, Kant's statements reveal his entire ignorance of Hume's view of mathematical science as given in the *Treatise*.

[3] Cf. Vaihinger: *Commentary*, I, pp. 344 ff.

and a felicity of illustration, which go far to explain the widespread popularity which they enjoyed in the latter half of the eighteenth century. Their literary quality is, however, more than counterbalanced by the absence of any genuine appreciation of the deeper speculative implications and consequences of the problems which they discuss. And this being so, he is naturally at his worst in his criticism of Hume. In insisting, as he does, upon the absurd practical results[1] that would follow from the adoption of Hume's sceptical conclusions, he is merely exploiting popular prejudice in the philosophical arena. That, however, may be forgiven him, if, as would seem to be the case, the quotations which he gives verbatim from Hume's *Treatise* really first revealed to Kant the scope and innermost meaning of Hume's analysis of the causal problem. The evidence in support of this is entirely circumstantial. The German translation of Beattie's *Nature of Truth* was published at Easter, 1772, *i. e.*, in the year in which Kant, in the process of his own independent development, came, as shown by his famous letter to Herz,[2] to realize the mysterious problematic character of *apriori* knowledge *of the independently real*. He was then, however, still entirely unconscious of the deeper problem which at once emerges upon recognition that *apriori* principles, quite apart from all question of their objective validity, are synthetic in form. We also know that Kant was acquainted with Beattie's work; for he twice refers to Beattie's criticism of Hume.[3] What more probable than that he read it in the year of its publication, or at least at some time not very long subsequent to the date of the Herz letter? The passages which Beattie quotes from the *Treatise* are exactly those that are necessary to reveal the full scope of Hume's revolutionary teaching in respect to the general

[1] These Hume had himself pointed out both in the *Treatise* and in the *Enquiry;* because of this he rejects scepticism as a feasible philosophy of life. Kant's statement above quoted that Hume's critics (among whom Beattie is cited) "were ever assuming what Hume doubted, and demonstrating with eagerness and *often with arrogance* what he never thought of disputing," must undoubtedly refer in a quite especial degree to Beattie. That is exactly what we feel in reading him.

[2] *Werke*, X, pp. 123. It is dated February 21, 1772.

[3] In *Prolegomena*, p. 6 (above quoted, p. 291 n), and p. 8 (Eng. trans., p. 6): "I should think Hume might fairly have laid as much claim to sound sense as Beattie, and besides to a critical understanding (such as the latter did not possess)."

principle of causality. There seems, indeed, little doubt that this must have been the channel through which Hume's influence chiefly acted. Thus it was that at long last, and as it would seem by a circuitous path, through the quotations of an adversary, Hume awakened philosophy from its dogmatic slumber,[1] and won for his argument that appreciation which despite its cogency it had for thirty years so vainly demanded.

Let us now turn our attention to the rationalist philosophy in which Kant was educated. Hume's contention that experience cannot by itself justify any inductive inference forms the natural bridge over which we can best pass to the contrasting standpoint of Leibnitz. Hume and Leibnitz find common ground in denouncing empiricism. Both agree in regarding it as the mongrel offspring of conflicting principles. If rationalism cannot hold its own, the alternative is not the finding of firm foot-hold in concrete experience, but only such consolation as a sceptical philosophy may afford.[2] The overthrow of rationalisn means the destruction of metaphysic in every form. Even mathematics and the natural sciences will have to be viewed as fulfilling a practical end, not as satisfying a theoretical need. But though Leibnitz's criticism of empiricism is identical with that of Hume in its main contention, it is profoundly different both in its orientation and in the conclusions to which it leads. While Hume maintains that induction must be regarded as an irrational process of merely instinctive anticipation, Leibnitz argues to the self-legislative character of pure thought. Sense-experience reveals reality only in proportion as it embodies principles derived from the inherent character of thought itself. Experience conforms to *apriori* principles, and so can afford an adequate basis for scientific induction.

[1] Cf. *Prolegomena*, p. 8: I honestly confess that my recollection of David Hume's teaching (*die Errinerung des David Hume*) was the very thing which many years ago [Kant's writing in 1783] first interrupted my dogmatic slumber, and gave my investigations in the field of speculative philosophy quite a new direction." Kant's employment of the very strange term *Errinerung* may perhaps be interpreted in view of the indirect source of his knowledge of Hume's main position. He would bring to his reading of Beattie's quotations the memory of Hume's other sceptical doctrines as expounded in the *Enquiry*.

[2] Kant, it may be noted, classifies philosophies as either dogmatic (= rationalistic) or sceptical. Empiricism he regards as a form of scepticism.

There is a passage in Hume's *Enquiry* which may be employed to illustrate the boldly speculative character of Leibnitz's interpretation of the nature and function of human thought. "Nothing . . . [seems] more unbounded than the thought of man, which not only escapes all human power and authority, but is not even restrained within the limits of nature and reality. . . . While the body is confined to one planet, along which it creeps with pain and difficulty, the thought can in an instant transport us into the most distant regions of the universe. . . . What never was seen, or heard of, may yet be conceived; nor is anything beyond the power of thought, except what implies an absolute contradiction." This passage in which Hume means to depict a false belief, already sufficiently condemned by the absurdity of its claims, expresses for Leibnitz the wonderful but literal truth. Thought is the revealer of an eternal unchanging reality, whose validity is in no way dependent upon its verification through sense. When Voltaire in his *Ignorant Philosopher* remarks that "it would be very singular that all nature, all the planets, should obey eternal laws, and that there should be a little animal, five feet high, who, in contempt of these laws, could act as he pleased, solely according to his caprice,"[1] he is forgetting that this same animal of five feet can contain the stellar universe in thought within himself, and has therefore a dignity which is not expressible in any such terms as his size may seem, for vulgar estimation, to imply. Man, though dependent upon the body and confined to one planet, has the sun and stars as the playthings of his mind. Though finite in his mortal conditions, he is divinely infinite in his powers. Leibnitz thus boldly challenges the sceptical view of the function of reason. In opposition to the limitation of thought to the translating of sense-data into conceptual forms, he claims for it a creative power which enables it out of its own resources to discover for itself, not only the actual constitution of the material world, but also the immensely wider realm of possible entities. The real is only one of the many kingdoms which thought discovers for itself in the universe of truth. It is

[1] Quoted by Beattie (p. 295), who, however incapable of appreciating the force of Hume's arguments, was at least awake to certain of its ultimate consequences.

the most comprehensive and the most perfect, but still only one out of the innumerable others which unfold themselves to the mind in pure thought. Truth is not the abstracting of the universal aspects in things, not a copy of reality, dependent upon it for meaning and significance. Truth is wider than reality, is logically prior to it, and instead of being dependent upon the actual, legislates for it. Leibnitz starts from the possible, as discovered by pure thought, to determine in an *apriori* manner the nature of the real.

This Leibnitzian view of thought may seem, at first sight, to be merely the re-emergence of the romantic rationalistic ideal of Descartes and Malebranche. So to regard it would, however, be a serious injustice. It is held with full consciousness of its grounds and implications, and reality is metaphysically reinterpreted so as to afford it a genuine basis. There is nothing merely mystical, and nothing undefined in its main tenets. Leibnitz differs from Malebranche in being himself a profound mathematician, the co-discoverer with Newton of the differential calculus. He also differs from Descartes in possessing an absorbing interest in the purely logical aspects of the problem of method; and was therefore equipped in a supreme degree for determining in genuinely scientific fashion the philosophical significance and value of the mathematical disciplines.

Hume and Leibnitz are thus the two protagonists that dwarf all others. They realize as neither Malebranche, Locke, nor Berkeley, neither Reid, Lambert, Crusius, nor Mendelsohn ever did, the really crucial issues which must ultimately decide between the competing possibilities. Each maintains, in the manner prescribed by his general philosophy, one of the two possible views of the function of thought. The alternatives are these: (*a*) Thought is a merely practical instrument for the convenient interpretation of our human experience; it has no objective or metaphysical validity of any kind: (*b*) Thought legislates universally; it reveals the wider universe of the eternally possible; and prior to all experience can determine the fundamental conditions to which that experience must conform. Or to interpret this opposition in logical terms; (*a*) The funda-

mental principles of experience are synthetic judgments in which no relation is discoverable between subject and predicate, and which for that reason can be justified neither *apriori* nor by experience: (*b*) all principles are analytic, and can therefore be justified by pure thought. The problem of Kant's Critique, broadly stated, consists in the examination and critical estimate of these two opposed views. There is no problem, scientific, moral or religious, which is not vitally affected by the decision which of these alternatives we are to adopt, or what reconciliation of their conflicting claims we hope to achieve. Since Kant's day, largely owing to the establishment of the evolution theory, this problem has become only the more pressing. The naturalistic instrumental view of thought seems to be immensely reinforced by biological authority. Thought would seem to be reduced to the level of the sense-organs, and to be an instrument developed through natural processes as a means of adaptation. But the counter-view has been no less powerfully strengthened by the victorious march of the mathematical sciences. They have advanced out beyond the limits of Euclidean space, defining possibilities such as no experience reveals to us. The Leibnitzian view has also been reinforced by the successes of physical science in determining what would seem to be the actual objective character of the independently real. Kant was a rationalist by education, temperament, and conviction. Consequently his problem was to reconcile Leibnitz's view of the function of thought with Hume's proof of the synthetic character of the causal principle. He strives to determine how much of Leibnitz's belief in the legislative power of pure reason can be retained after full justice has been done to Hume's damaging criticisms. The fundamental principles upon which all experience and all knowledge ultimately rest are synthetic in nature: how is it possible that they should also be *apriori*? Such is the problem that was Kant's troublous inheritance from his philosophical progenitors, Hume and Leibnitz.

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PRINCIPLES OF VOLUNTARISM.

I.

A TENABLE theory of knowledge must furnish both an adequate conception of the end and goal of all thinking and an effective method of determining how far ideas contribute to the attainment of this end. It must tell us in what Truth consists ideally, and how particular ideas may be actually verified. The need for holding both of these requirements distinct, and for emphasising each equally, may not be at once apparent. One may seem to imply the other as a matter of course: we cannot discover the aim of thinking (it would appear) without throwing light on the process of its attainment and, conversely, an investigation of the actual procedure of obtaining knowledge is bound in some measure to reveal the essential character of knowledge itself. Yet the history of epistemology shows how difficult it is to do equal justice to both aspects of the knowledge problem, how interest in one aspect almost inevitably leads the investigator to slight or misunderstand the other. Thus the school of Rationalism has been chiefly interested in the end or goal of thinking, which it has understood as a self-consistent body of ideas, a unified system of thought. From the ideal of thought as thus conceived, it has derived a criterion of truth, coherence or consistency. The actual process of obtaining knowledge turns out thus to be a logical exercise, yielding a system of concepts possessed of an admirable internal consistency and coherence, but lacking the one essential of real existence. The Empiricist school, on the other hand, has always been inclined to treat the problem of knowledge historically: it has sought to find out the different ways in which specific facts are actually discovered. Thus Empiricists have dwelt chiefly upon observation, experiment, and induction, as methods of securing knowledge. Generally, however, they have neglected the end or aim for the sake of which observations and experiments have

been made; they have been content to let an assortment or miscellany of facts represent Truth to them, thus failing to satisfy thought's demand for system and completeness. Now, if we are to profit by the development of philosophic ideas, we must seek to avoid both of these opposing errors. We must so conceive of the end and aim of thought that its realization shall necessitate a constant appeal to actual existence, and so understand the process of discovering new facts that it shall contribute to the universal aim of all thinking.

Of how this task may be accomplished we receive a valuable suggestion from the development undergone by the two historic standpoints just mentioned. For both Rationalism and Empiricism appear in earlier and later stages of development. Descartes and the earlier Rationalists believed that we obtain true knowledge when by a process of conceptual analysis we discover the implications of certain first principles which are already inherent in the nature of intelligence (and whose eternal truth is signified by their clearness and consistency). For Locke and the earlier Empiricists knowledge was accumulated by comparing and combining the ideas received ready-made through the channels of sense-perception. By neither party was knowing conceived as a constructive or creative activity; by both it was understood as a becoming aware of that which, as truth or as fact, existed already formed or finished. According to the later Rationalism represented by Kant, however, we gain knowledge when, by creative synthesis, we organize the data of sense into a coherent system whose constitutive principles derive validity from the service they perform in such work of organization. In a more fully developed Empiricism appearing finally as Pragmatism, thinking is conceived as an activity of adjustment, essentially experimental in character, which seeks verification for ideas in the results of purposive action. Thus we see these two theories, ancient antagonists, becoming less one-sided and more concrete as they become more *dynamic*, giving a larger and larger place to action in the cognitive process.

The direction of development in modern epistemology clearly suggests, therefore, that we may hope for a final solution of the

knowledge problem only if we refuse to separate theory from practice, only if we insist upon treating thought as an expression of will. For it is only in so far as the ideal of Truth—a coherent system of ideas complete because comprehending all reality—is pursued as an end of will, a practical task, that its attainment involves a constant appeal to objective reality. We may analyze ideas and combine them into systems without interference from, or sanction by reality, but we cannot act upon ideas without receiving the judgment of reality upon them. If knowing is a species of voluntary activity, Truth—as James has said in a pregnant passage—is one species of Good, the name of whatever proves itself to be good in the way of belief.

II.

The problem of knowledge thus broadens into the problem of conduct, since thought is itself a species of voluntary action and in voluntary action alone we come into direct contact with objective reality. Is there not reason to hope that the operation of will, the original activity of our nature, would, if genuinely understood, give us a key to the meaning of human life and the world of human experience? Undertaking with this expectation, then, the study of volition, we find ourselves in need of a preliminary definition which shall, at least provisionally, fix the meaning which we give to the word. To formulate such definition is not so very difficult—at least after a troublesome preliminary question is satisfactorily disposed of. This question is whether we shall feel obliged to define will altogether in terms of the events and processes described by the natural sciences and especially Biology, or whether we shall admit as equally valid, and possibly more relevant, the standpoint of the normative sciences and, in particular, Ethics. Now to insist upon defining volition altogether in terms of organic behavior, thus ruling out of court the conclusions of the sciences of value, moral and social, seems the sheerest pedantry; it is equivalent to rejecting the direct and natural way of approaching the subject in favor of the indirect and artificial, and this upon methodological and scholastic grounds. Suppose, then, that we

look directly at the operation of will in the conduct of man, as it manifests itself in the evolution of human society and civilization, and also in our own choices and pursuits. What do we find? We find first that volition is a factor in the physical world of bodies and motion, that it directs the movements of the physical organism which it inhabits and, in consequence, influences the movements of other bodies both living and non-living. But we find it playing also quite a different part: that of choosing between objects in accordance with their comparative value as ends. The objects which constitute this second realm of ends are related, not according to their position or sequence in the mechanical order, but according to congruities or incongruities of meaning, in a teleological system. The standing of an end as member of such a teleological system is determined by its degree of comprehensiveness, by the number of lesser interests for which it provides. So viewed, in the light of human history and experience, will appears as a power constantly striving so to control the forces of nature and adjust the tendencies of social life as to bring about the most comprehensive satisfaction of human personality. Condensing this statement with a view to conciseness, we obtain a working definition of volition. Will, we therefore define as *that power in man which strives to initiate such sequences of movement as satisfy the greatest variety of interests.*

In adopting this definition we recognize that will aims in its operation at extending and enlarging the scope of its own activity. Hence it might not inappropriately be described as a self-expanding, or self-organizing, activity. Thus we should relate volition to the self-preservative tendency characteristic of all life—not deriving it from life or regarding it as a further development of the instinct of self-preservation, however; since will as we conceive it is the original activity of conscious experience and the source of all its principles and categories. The description of volition as a self-expanding activity is not incorrect; it is insufficient because abstract. The definition just proposed is by contrast concrete because it attributes the ability of will to extend the range of its own activity to two powers which it possesses, the power of coördinating movements and the power

of choosing between interests. Will comes upon the scene equipped with the ability to initiate movement having three parameters and to appreciate the comparative value of generic qualities or characters. This ability we usually explain as the outcome of action performed before the advent of volition and due to instinct or impulse, through whose operation certain complexes of qualities have become associated with definite kinæsthetic ideas. Such explanations are subject to the qualification made above that they all presuppose will as the fundamental activity of human experience, and hence cannot possibly reduce it to a secondary or derivative status; but with this reservation admitted, they are useful to illustrate and enforce our main contention that volition does not undertake incidentally to direct movement or, in lieu of something better, interest itself in such satisfactions as our human situation affords; it *is* such a coördinating of movements as increases the variety of possible satisfactions.

To volition, kinæsthetic and teleological experience are essential; with volition both are originally given. The experience of movement contains both sensational and affective constituents. On the side of sensation it is analyzable into experiences of pressure and of strain, with associated visual images. Here the original experience is perhaps that of striving against and overcoming resistance, on several points simultaneously or on one (or more) successively. Teleologically, the root experience is one of latitude or scope, of the liberty to range unhindered within a definite circle of interests. The qualities which promise satisfaction and to which interest attaches fall into a limited number of classes, being distributed among the familiar sense-departments. To these qualities names are given which fix their status as universals. They are not of course experienced separately, but joined in complexes of endless variety. The constituent qualities of these complexes are distinguished because we find the same ones present in different combinations. Some are of interest directly because they promise satisfaction themselves, such as tastes, odors, touch qualities, etc. Others, such as colors, shapes, sounds and the like usually attract indirectly

because they are signs of the presence of qualities valuable on their own account. Certain complexes of qualities (objects necessary for existence, like food) are at first supremely attractive. But this original pleasantness does not decide their permanent value or result in their habitual choice. It causes them originally to be sought and realized; but their comparative value for volition depends upon the range of further activities to which they open the way. Thus the value of food for a developing will depends upon the strength which it supplies for further activities. Moreover, as it gains further use of its powers, will discovers ends which promise a greater variety of satisfactions than these objects of natural desire. While a handful of bananas may give strength for a day's journey or a cave within a rock a night's shelter, a herd of cattle will provide a winter's sustenance for a family and a house serve to centralize their diverse activities and employments during a period of years. Through experimenting with different qualities and groups of qualities volition seeks to discover which are thus most comprehensive and, through the elaboration of movements, endeavors to provide for their realization. Thus arise an order of movements and a realm of ends; but no matter how highly organized the system of purposes, or how complicated the plans of movement of a voluntary agent, they are all made of material originally given to volition in the form of kinæsthetic or teleological qualities.

To discuss at all fully either the kinds of movement which volition is able to initiate and direct, or the interests among which it can choose, is manifestly impossible. It will be sufficient to recognize that both movements and interests fall into two main classes. Of movements there are first the main bodily movements of trunk and limbs by which objects are moved and manipulated and the location of the body itself is altered, and, second, the movements of the speech-organs and muscles that determine facial expression, by which meaning is communicated to other agents and their conduct influenced. Interests are also divided on a parallel line, into those which appeal directly to the agent and those which are indirectly appreciated through

communication. (This duality, present in both the order of motion and the realm of ends, is the root of the difference between the world of nature and that of inter-subjective intercourse.)

The regular operation of will proceeds through three stages. The first is that of ideation. In contrast to objects that are actual, that is, maintained by present effort of attention and by established motor adjustment, is set an object which is possible (or ideal), that is, the outcome of incipient coördinations of movement and the source of future satisfactions. The second is action. The sequence of motor adjustments which promises to result in the imagined object is initiated and carried through. The third is satisfaction. The object chosen is experienced as the result of effortful action and the source of further possibilities of satisfaction. The unity thus established between chosen interest and requisite motor adjustment is immediately experienced in a feeling which, whatever it may be called, feeling of unity, of achievement, of power, is unique and conclusive. The office of volition is frequently (and correctly) said to be the realization of ideas as ends. What then is meant by realizing an idea? An idea is realized when it is re-experienced as the result of a sequence of movements, and thus made the source of varied possibilities of satisfaction, and a starting-point for new efforts of action. The ideal object is thus converted from possibility to actuality by being brought into dynamic relation with actual existence. Suppose that on a hot day I resolve to visit the shore of a near-by lake, being attracted by the thought of the comfortable seat which I expect to find on the sands of the shore, the cool refreshing breeze that will blow, and the pleasant view it will afford. I take the road that I believe leads in that direction and set out on my walk. Finally, I arrive at the lake-shore, pleased that I have found my way and prepared to enjoy the features of the situation that appealed to my fancy. My idea of the lake has been realized in that direct way in which all ideas are originally realized—by action and fulfilment.

Thus far we have considered but one factor in the conduct situation, the human will, with its capacities and mode of opera-

tion. But will does not operate in a vacuum; it is conditioned in all its activity by objective reality. This is then the other factor in the realm of human conduct. Now objective reality is not to be deduced or derived from will; it must be accepted as equally ultimate with volition itself. It is not even inferred from certain results of voluntary action; it is directly experienced in all volition. Objective reality is directly experienced as that which permits and in this way sanctions, or which frustrates and thus denies, the activity of will. Reality gives its sanction to our will when it permits the course of action voluntarily undertaken to reach its intended goal. It negates volition by interfering with such course of action and bringing it to an unexpected outcome. But whether favorable or unfavorable, the voluntary agent receives the verdict of reality when he essays to act. In action the will is face to face with objective existence.

In cases where objective reality gives its sanction to chosen lines of conduct and thus validates their guiding ideas, its mode of influence seems clear. It permits the sequence of movements to proceed uninterrupted to their intended goal. Reality introduces no new factor, makes no positive contribution of its own. But in the opposite case, where reality checks or frustrates the proposed action, the case is different. Here it does appear to force upon operative volition new and unwelcome facts, to break the continuity of voluntary action by thrusting in foreign and intractable material. This type of experience makes realists of us all: where objective existence rises before us as a wall of stone, blocking every effort of our will, a stone-wall against which we can beat our heads, full of idealistic theories as they may be, in vain. The problem here involved is of momentous importance. How does objective reality act to limit and circumscribe volition? We must if possible get light upon this point for it is the crux of the whole matter. Let us turn back to the illustration of voluntary action lately used. Suppose that I am walking over the road which, the guidepost assures me, leads to the lake. I come to a place where the road goes over a bridge which spans a deep ravine through the rocky bed of which a small stream flows. I see that the bridge is dismantled, prepara-

tory to reconstruction. I halt at the edge of the ravine and survey the prospect. The sides of the ravine are steep but I see a way to descend and climb the other side. The stream at the bottom is low and numerous rocks in its bed offer stepping-places to cross. I descend, cross with some effort and difficulty, scale the opposite bank and continue my journey. Or imagine that I reach my intended destination without such interruption but find that the expected features do not materialize. The wind is blowing off-shore perhaps, or there are swarms of mosquitoes. I must either go home disappointed or, may be, walk around to the other shore of the lake. Now in either case reality has interfered to limit or frustrate my will. How has it done this? Certainly not by forcing upon me hitherto unknown experiences, by injecting into my consciousness foreign elements! Unexpected, disconcerting, the experiences were, but not altogether unfamiliar. The motor adjustments required to go down into the ravine were nearly if not quite as well-known to me as those incidental to walking over the bridge—if they had not been I could not have negotiated them. The sultry heat and the mosquitoes were as familiar as the cool air and fresh breeze—if they had not been I could not have recognized them. No, in the first instance reality limited my will by interrupting the expected sequence of movements and forcing me to alter them, if indeed I wished to continue acting at all and not meet disaster which should terminate my career as a voluntary agent. Objective reality forced me in a most unwelcome way to make new adjustments, to reverse my program of action. In a similar manner in the second case it thwarted my will by denying me the outcome I expected from my course of action. Instead of being permitted to relax my efforts in a choice of the enjoyments offered by a seat on the lake-shore, I was forced to immediate readjustments whose results were so unpleasant as to convince me that I must journey farther if I wished to taste the pleasures I sought.

The process of action in which we receive the verdict of reality upon our ideas has been sketched only in the most summary and, it may justly seem, superficial manner. The most of our actions, like the one used in our illustration, are far from

being simple movements or even single motor coördinations. They consist of a series of motor coördinations, the perceived result of one being the cue for the performance of the next, and so on through to the end of the series. More accurately, the result of each successive motor adjustment, as perceived, must contain the plan for the next movement required by the projected program of action. In going to the lake I walk down the garden path to the street; this, when I have reached it, I perceive as the street which two blocks north crosses the road that I think leads to the lake; following the street for two blocks I come to the crossing of the road which I perceive as going east towards the lake. Now, in the cases where reality thwarts our actions, it does this by bringing one of the motor adjustments to an unlooked for result, which is identical with forcing us to change our plan for the succeeding movement, such change being at variance with our pre-conceived program and leading us away from its expected goal. So the walk around the bend of the road to the brow of the ravine brings me not to the unbroken span of the bridge but to the gaping abyss of the ravine. One may ask at just this point if reality does not force me to change my course of conduct by presenting me with new facts? Were not the facts of the broken bridge received by my perceptive faculties the occasion and cause of my change of action? To this question the answer is that my perception of the bridge as broken was itself a new plan of action—a broken bridge is a bridge that cannot be crossed but must be gotten by in some other fashion. But the questioner may persist: Was not the new plan of action with its ideas of motor response evoked by certain qualities presented by the bridge as an existing fact? These existing qualities were in this instance those of form and color—as I approach the bridge its floor does not present an expanse continuous with the roadway, instead it breaks the continuity of the latter with an irregular shadowy gap. But this objection is removed by a more detailed analysis of the motor coördinations involved. The unexpected and disconcerting appearance of the bridge comes from the unexpected adjustments which I am compelled to make, of muscles connected with the visual sense.

Instead of sending my gaze freely and without hindrance along the dusty-brown streak which is the sign of open road and uninterrupted passage, I am compelled to readjust my sense of sight to the presence of a darker segment dividing the aforesaid dusty-brown roadway into two sections. But why are the eye movements thus interrupted and forced to readjustment? Because the break is there compelling me to do so? No, this would be getting the cart before the horse; it was the interruption of the expected continuity that forced me to divide what promised to be continuous into three sections. We seem here to have come to the limits of analysis and are face to face with the ultimate fact. In such cases, we are compelled to make readjustment because *objective reality checks, hinders, and makes impossible, our attempted movements.*

A final question may be briefly answered before we proceed. Do we then never experience qualities *as qualities*, that is, as general characters or universals, and not forecasts of movement? Yes, we do, when the action is completed, when the sequence of movements reaches its intended outcome. Then the object we experience is not such as requires from us an effort of movement, but such as offers to us a choice of satisfactions. These possibilities of satisfaction resident in objects hold at all times and for all wills; they are hence universal qualities or characters. Because such satisfactory qualities were anticipated, the action itself was undertaken, and the fact that they are thrown open to the choice of the agent shows that it has reached its intended goal.

The facts just stated in regard to the limitations imposed upon our wills by objective reality have an important bearing upon the relation of thought to this objective reality. Indeed, if the account given is correct, it contains more than a hint of the solution of this most difficult problem of epistemology. In the first place, we see that it is in an important sense true that we can know only our own ideas, which are not themselves reality, but interpretations of reality in kinæsthetic or teleological imagery. To these interpretations Reality says yes or no; it does not do this, however, by breaking into consciousness and forcing upon our attention new and unwelcome facts or objects.

It says no to our ideas by forcing us when we are acting upon them to stop and form new ideas which are of course new plans of action or working hypotheses, to be tested by immediate action. Reality thus rules out certain of our ideas but supplies us none to take their place. We are obliged ourselves to formulate the new theories and hypotheses. And the materials to be used in these formulations must be drawn from the same limited stock out of which the rejected ones were formed. If the real situation compels me to essay climbing down into the ravine instead of walking over the bridge as I expected, the component movements are as familiar to my thought as were those of my earlier program and drawn from the same original experience of motion. Hence it is quite incorrect to say that objective reality supplies the material of our ideas while intelligence gives the form. The material is, rather, given along with the power of thought or of will itself. No matter how widely our thought may range, its constituent materials must be motions in a world of three dimensions and qualities which fall within a limited number of sense-departments. Thought is provided with these materials already formed in judgments as the outcome (we say) of instinctive adjustment. No other material than this is available to thought, nor given in the most surprising or unusual experiences of action. Imagine that reality interrupts the expected sequence of our voluntary activities by way of an accident—that I come to the broken bridge on a dark night and plunge over into the ravine. As long as I retain possession of my senses and can make any effort while falling, it is only to struggle in familiar ways, to move trunk and limbs with the vague expectation or hope of producing an accustomed result. And if I were conscious at all after striking, it would be of qualities which I recognized as pain, hardness, wet, etc. Indeed, if the proposal is made to derive one of the two factors, form and matter, from objective reality and the other from subjective intelligence, it would seem more reasonable to hold that reality supplied the form while intellect furnished the matter. But this statement would be subject to such reservations as would largely destroy its significance. For it cannot be denied that intelligence or will furnishes an

important part of the form of our experience as well as the matter. To be capable of realization, and hence known as true, movements must have regularity of procedure and qualities retain their specific characters and relationship of subsumption. The material of knowledge takes from the first the form of judgment—judgments of existence and of value. Besides the material, then, the fundamental relations which constitute the framework of the objective world are furnished by will itself; for how could ideas be realized at all unless movements could be depended upon to proceed in fixed sequences and qualities to maintain their relations of inclusion and exclusion? But within the framework thus provided, the orders of existence and of value, particular events and qualities are related according to the dictates of reality delivered in the manner just described.

III.

After an idea is realized in action, it becomes a permanent possibility of satisfaction. Such ideas are preserved in their dynamic relations by thought. Thought appears originally as a factor in the operation of will, as that ideating activity by which future actions are planned and satisfactions anticipated. It develops into a specialized form of volition which exhibits all the essential features of will under its own characteristic form of idea. Its aim is to formulate an ideal system which shall represent all the objects that can be realized, *i. e.*, all possible satisfactions of the human will. This supreme end, Truth, is of course but an expression of the supreme end of volition, under the form of idea or belief. Truth is sought by thought as any other end of volition is pursued—by effortful action. The effort of thought is expended in an attempt to correlate and organize ideas that have been verified and stand as facts within the most coherent possible system, and to devise new actions and experiments in order to verify ideas which, if facts, would tend to fill in the gaps and thus complete the ideal system. Its rule is that of consistency: that objects shall preserve their identity and retain their relations of sequence and subsumption. This principle is of course only an expression of the unity of volition:

objects in order to be attainable must remain the same and have permanent relations.

An objection may be interposed at this point to the treating of thought as a special expression of will which is said to exhibit all its characteristic features, on the ground that we have by definition asserted movement to be an essential factor in volition while thought does not involve motion at all. This apparent inconsistency disappears, however, if we make allowance for the changes undergone by the essential features of volition as a result of their being cast in the form of idea. For while thought does not move about in the world of actual perception, it does, when dealing with actual existence, project and correlate movements. Not that it merely represents or imagines movements that have actually occurred; it really constructs figures and postulates motions within its own ideal medium, as the development of pure mathematics amply proves. Moreover, in thus constructing ideal systems and sequences of movement for the purpose of organizing the facts of existence, it is under the control of objective reality, just as actual movement is. In this case reality appears in the guise of ideas which have been verified and stand as facts. These established facts in the realm of thought challenge, check, and frustrate proposed theoretical constructions, just as objective reality interrupts and upsets the courses of action which we undertake.

In constructing its ideal system, thought, as we have seen, relates ideas dynamically—in terms of the activities required to produce them. These activities, it has appeared, are of two main sorts, movement and choice. The objects which thought represents as real are consequently conceived in terms either of the movements required to attain them or of the various qualities which these exhibit when attained. In this way there develop simultaneously in the realm of thought two conceptual orders, the mechanical and the teleological. The first is of course the material world, the world of objects impinging upon one another in space; the second is the ideal or spiritual world, the world of qualities related by congruities or incongruities of meaning. The former is the world of existences, of temporal and spatial

contiguities; the latter is the world of essence, of qualities related by identities of character.

Each of these worlds may be seen to have developed through three stages correlated with, and consequent upon, the steps which volition itself has taken in pursuit of complete satisfaction. In the mind of primitive man there is no thought of separating the two orders, although in his confused intelligence each is discernible in its incipiency. His world is an aggregate of things all having particular place and existence, while at the same time possessing generic qualities and satisfying common human interests. On the mechanical side he understands little of the effect of objects upon one another, conceiving them almost exclusively in relation to his own bodily movements (and the movements of supposed beings like himself); teleologically, he comes to have some dim idea of how qualities are related according to degree of generality, recognizing at least that some are more and some less common. The next stage in the evolution of thought comes after man has learned by increasing experience how objects act upon one another, and comes to depend for desired results not altogether upon his own bodily movements but upon the movements of other bodies, their causes, which he, by his own hands, sets in operation. On the side of value, there is a dawning recognition that qualities may be related not merely by the extent of their generality or commonness, but also by virtue of their varying comprehensiveness—certain ends like wealth or reputation receiving special attention not because they are so widespread or common but because they include so many further satisfactions. The third stage in intellectual development comes after man has gained large control over the forces of nature and extensively organized his social and political life. Rapidly enlarging experience of the actual world leads him to separate in his thought the mechanical from the teleological orders and his increased success in dealing with the forces of nature after he has made this separation encourages him to render it complete. Secondary qualities are therefore eliminated entirely from the material world and it is conceived altogether in terms of motion, as a complexus of movements varying in

direction and velocity. Far-reaching social and political organization leads human thought to attempt a formulation of the teleological order likewise complete in itself, and exclusive of the mechanical. Thereupon mechanism, with its necessary particularity and incompleteness, along with space and even time perhaps, are transcended and reality is conceived as a completely organized system of ends, all being finally included within an absolute and all-comprehensive end, or Good.

Thus the two worlds, mechanical and spiritual, have come to confront one another in modern thought, so different as to seem out of any conceivable relation, even that of antagonism. Is this dualism final? Thought is naturally restive under it, for such dualism conflicts directly with the intellectual ideal of coherence and unity. Yet, if our account of its origin be correct, it can never be removed, nor can the two orders be united by any purely theoretical construction. This is impossible because the difference between them goes back to the fundamental nature of will itself, and hence conditions the very existence of thought as a special development of volition. Since, moreover, the dualism between movement and choice, necessity and freedom, goes back to the will itself, it can be removed only by activity of volition. It will be removed only when the order of movements is experienced as affording complete satisfaction to the system of personal interests. To bring this about is a practical task, not a theoretical problem. The spiritualization of the world is an end to be realized, to be realized by action, by effort and striving to adjust mechanical forces to the needs of personal development. And its achievement, like any other achievement, must first be experienced immediately in an emotion of satisfaction. Obviously, the reconciliation of nature to spirit, as a task of the human will, has not yet been accomplished, nor has the feeling of final satisfaction which is the crown of completely successful labor been yet experienced by any man. If this experience of ultimate unity, of final synthesis, has been anticipated in part by anyone, it is by the man who, laboring for the welfare of humanity, invents a machine, organizes an industry, administers a government, founds an institution, which he sees working for human betterment.

If we thus view the reconciliation of mechanism and purpose as a practical or moral task, we shall have reason to regard the separation of the two orders, and particularly the exclusion of all value and meaning from the mechanical order, as a sign of promise rather than a cause of discouragement. For it is only as the mechanical world is emptied of all quality and conceived in terms of movement solely that it is capable of thoroughgoing mathematical, that is to say, intellectual, formulation. And it is through such mathematical formulation that human science will be able to analyze existing movements into their simpler components and discover new combinations which may by experiment prove to increase the fullness of human satisfaction. Modern civilization is the result of just such increasing subjection of the forces of nature to the interests of human development, due to the constructions of pure science. But the work promises to be long and full of difficulty and danger. Human volition will scarcely be equal to the task unless sustained by a faith in its potency and permanence. Such beliefs as that in the permanence and potency of personality, and the ultimate triumph of spirit over matter, are of course but postulates; they are verified as all beliefs are, by the results of action, by the aid they give us in accomplishing our task, in overcoming the world.

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REVIEWS OF BOOKS.

Greek Philosophy. Part I. Thales to Plato. By JOHN BURNET. London, Macmillan and Co., 1914.—pp. x, 360.

One who has spent more than half of his life in the endeavor to comprehend a complex subject, finds it neither an easy nor a grateful task to write a brief review of a book covering that same subject, particularly if the author merits and commands his respect and admiration, while his exposition fails to command his assent to its conclusions.

Professor Burnet's latest volume cannot be considered entirely by itself. The part of the subject comprised in Book I the author had twice before discussed at greater length in successive editions of his *Early Greek Philosophy*, and some of the matters treated in Books II and III had been anticipated in the preface to his edition of Plato's *Phædo*. The intimate knowledge of Plato which this new volume displays is the fruit of long years of study, to which we owe his admirable text of the complete works of that all-important writer. It is therefore not necessary to say that such defects as the exposition of Greek thought under review may be found to have are not due to ignorance, but are matters of judgment and therefore disputable. Of the impossibility of arriving at judgments which will compel the assent of all competent judges, particularly in so difficult a field of inquiry as this, the author and the reviewer are equally aware, and neither expects the impossible. The reviewer, as such, has the advantage however that, where so much is concerned with hypotheses, he is for the time being not the advocate of hypotheses but the *advocatus diaboli*.

Since in this review attention must be chiefly directed to points at which our author fails to carry conviction, it ought to be said emphatically at the start that the book is rich in valuable suggestions which we may confidently expect to have a fructifying influence on future attempts to write the history of Greek thought. This is perhaps as great praise as one may hope to win at the present stage of the inquiry; for the very conception of such a history on defensible principles is yet in its infancy. Professor Burnet has in this volume given the best hints hitherto offered on one vital point, the value of Aristotle's statements regarding his predecessors. The more im-

portant task of evaluating the doxographic tradition as a whole and in detail still remains to be accomplished: Diels' monumental *Doxographi Graeci* merely laid the indispensable foundations for the inquiry by showing in outline what belongs to that tradition.

The office of the historian of thought in a bygone age is the philological interpretation of texts. His success, a knowledge of the available texts being assumed, will depend on his comprehension of the total intellectual life of the period, and in particular of the fields which border on that to which his special inquiry is directed. Professor Burnet's acquaintance with such outlying fields is considerable, particularly with that of ancient mathematics; in other directions, as in respect to Greek medicine and Greek history and geography, it is clearly deficient. The attentive reader who has cultivated that ground cannot fail to note the influence of the direction of interest betokened by his virtues as well as his defects. They, and they alone, explain to the writer our author's conception of philosophy and of science. On p. 11 the problem of reality (τὸ ὄν) is said to be the dominant of Greek philosophy, and we read elsewhere that for the purposes of this history philosophy means all that it meant for Plato and nothing that it did not mean for him. As to the first statement, it does not and cannot apply to the Milesians, though they are accounted philosophers; for their interest was directed to origins, as is shown by their κοσμοποιία and by their devotion to geography and history. In fact, it cannot be made to agree with the implications of the second statement, even if one accepts Professor Burnet's own account of Plato's philosophy. By his account, if the writer grasps its meaning, Plato's real interest was not directed to τὸ ὄν or to metaphysics. In the later dialogues such concepts as τὸ ὄν, ἕν, πολλά are stript of metaphysical, certainly of all ontological meaning: they become logical terms, are defined, and enter into judgments formed to meet the data of experience. This is logic pure and simple; in other fields the relative terms 'hot' and 'cold' are brought from the region of the absolute and are submitted to an analogous definition, which, as Professor Burnet remarks, raises the demand for a thermometer. This is not metaphysics, but what the writer would call science. Similarly one may dispute the view that Socrates, whether or not he adopted the Pythagorean 'forms' outright or postulated ontological Ideas, was primarily interested in the problem of reality. That he accepted certain entities as real, chiefly the soul, conceived in the manner of the Orphics, and probably certain concepts of fundamental importance for ethics, is indeed to be inferred from Plato's

Apology; but the same document leaves no doubt that these were the given points of departure for his thinking as for his missionary endeavors, which aimed in the last resort to draw the practical consequences in conduct from the 'hypotheses.'

Professor Burnet (p. 100 sq.) speaks of the Hippocratean treatise on *Ancient Medicine* as "a revolt against cosmology," and of the Sophists (p. 101) as in "a revolt against science." To the writer this is strange language. Protagoras, who made a beginning of a rational classification of the parts of speech, and so initiated the study of grammar; Gorgias, who distinguished and developed the more intricate figures of thought and of speech, paving the way for an analysis of style; or Hippias, who displayed an intelligent interest in history and in the establishment of a unified chronology as well as in the higher mathematics and astronomy—are these to be credited with leading a revolt against science? They unquestionably either revolted against ontology or ignored it, but one must adopt a questionable and hardly intelligible terminology before one can well speak of their activities as hostile to science.

The truth seems to be that our author is so engrossed with the 'Pythagoreans' that he fails altogether to appreciate the aims of the Milesians and of the entire Ionian tradition, although of such is the kingdom of the present and presumably of the future in science, as that word is currently used. Pythagoras was an Ionian *émigré*, carrying with him the scientific interest of the Levant, which in the West, under Orphic influences, took on a different or at least a more specialized form. The first Milesians, besides their interest in mathematics, concerned themselves with origins and history. Their cosmology was a cosmogony, a history or story of the origin and ordering of the cosmos. Aristotle clearly felt that this was not true of the Pythagoreans: he says "they mean to give a cosmogony" (*κόσμον γεννᾶν*), but their principles do not lend themselves to such a conception. No one will appreciate better than Professor Burnet what Aristotle is doing when he says that they mean to do a thing. The Pythagoreans confined their scientific activity to the mathematical side, and ignored the quest for origins and history. To pursue this point farther would lead us too far; but it is of importance both for the history of Greek philosophy and for the understanding of the limitations of the book under review.

From what has already been said one may perhaps gather what the writer means by saying that in his opinion our author, though he has devoted much thought to the Pythagoreans, and in many ways credits

them with more than they are entitled to claim, in other respects does them less than justice. Failing to grasp the significance of the Ionians, he fails also to appreciate the true importance of the Pythagoreans, who emphasize the εἶναι where the Ionians stress the γενέσθαι. Professor Burnet's old difficulty about φύσις lies here; but this too we must pass over lightly. The specific contribution of the Pythagoreans to Greek philosophy is the metaphysical strain, which begins with them or with Parmenides, who was, like them, under Orphic influences. Until we perceive this fundamental fact and see its consequences, the history of Greek philosophy must remain for us a sealed book.

Professor Burnet in this volume is chiefly concerned with the Pythagoreans, with Socrates, and with Plato; and a judgment of its results will depend in good part upon the acceptance or rejection of his methods and conclusions. Since the writer has been prevented from completing his own history of early Greek philosophy solely by his inability to arrive at a satisfactory detailed view of the part played in it by Pythagoreanism, one will readily understand why our author's account of the Pythagoreans has engaged his thoughtful attention. An acceptable solution would be warmly welcomed, from whatever quarter it came. The confidence one would feel in it would be doubly great if it had the support of a scholar who has devoted so much study to it as our author. His solution has been rejected with regret because it seems indefensible. In the first place, Professor Burnet seems to attach too much weight to the late lists of Pythagoreans, by which pretty nearly every thinker who was not directly an Ionian is claimed for the school. In view of the known vitiation of the tradition about the Pythagoreans, too much caution cannot well be observed regarding it. Thus, in the writer's judgment, there is no satisfactory evidence that, say, Alcmaeon, Philolaus, Simmias, and Cebes were in any real sense Pythagoreans. What is clear is that they were physicians, interested, like many whose work is preserved in the Hippocratean Corpus, in philosophical problems. As for Alcmaeon, it is clear that Aristotle did not regard him as a Pythagorean. Presumably he did not so regard Philolaus. He never mentions him, though his pupil Meno quotes his medical doctrines. Theophrastus is thought to have reported astronomical and cosmological views of Philolaus; but the evidence is in favor of the conclusion that these summaries derive from the Posidonian *Vetusta Placita*. All the references to a philosophical or mathematical treatise of Philolaus are suspiciously late. If Plato had really derived

his *Timæus* from such a book, Aristotle must have known it, and if he knew it, it were a miracle if he had passed the fact and the name of its author over in silence. Even Timon apparently did not know the author from whom he charged Plato with filching his treatise. Later, when a book roughly meeting the long felt want existed, its author is named. This is too insecure a foundation for critical history. We have not even the certain knowledge that Aristoxenus regarded Philolaus as a Pythagorean. One must either find firmer supports than those which Professor Burnet produces, or one must reconstruct the story. Then, too, much is classed as Pythagorean which is extremely doubtful, such as the theory, if it be a single theory, which Parmenides set forth as the "Opinions of Mortals." There are elements in it which point to Ionia and differ essentially from anything we have a right to call Pythagorean. What is most nearly akin to Pythagoreanism in Parmenides is his definition of the One. But we do not know whether he was "converted" to Pythagoreanism, as Diogenes Laertius says, by Ameinias, or to Orphism. Professor Burnet apparently owes his "conversion" of Parmenides to my essay, "Die Bekehrung im klassischen Altertum," although for reasons not altogether obvious he prefers to refer to Professor Diels, who says nothing about it.

As regards Socrates, also, it is difficult to agree with our author's account. That Socrates was a Pythagorean, or the head of a Pythagorean school—indeed, of any school whatsoever—would seem to be the last view to be taken by any one who accepts Plato's *Apology* as the starting-point for his inquiry. The burning of the phrontisterion in Aristophanes' *Clouds* is poor evidence to overbalance Plato's *Apology*, the character of the Socratics, and the eloquent circumstance that, whereas Pythagoras, Plato, Epicurus, and other 'founders' received divine or heroic honors after death, such were not accorded to Socrates, whose personality and martyrdom invited them in an extraordinary degree. This fiction rests in fact on the dubious foundation of the falling away of the 'Pythagoreans' Philolaus *et al.*, after whose apostasy Socrates "restores" the order. It is to be hoped that nobody will take this seriously. That Socrates adopted the Orphic conception of the soul, which Pythagoreans shared, is no doubt a fact; it may likewise be a fact that Socrates adopted the Pythagorean "forms" and adapted them as ὅροι to define the concepts needful for ethics. One may even go farther and grant that he could and did conduct such debates as occur in the Platonic dialogues which Professor Burnet assigns to him; all these taken

together would not make him a Pythagorean, rather than an Eleatic or a Heraclitean.

The Janus-bust of Socrates-Plato presents a perplexing problem, to which every one who deals with either of the great thinkers must address himself. A sober writer will be fully aware that he has not one chance in a million of solving it satisfactorily, but will propose his solution as the ancient mathematicians did theirs of the quadrature of the circle. To have offered an intelligent and intelligible hypothesis, even if it prove unacceptable, is no mean achievement, and is likely to be productive of much incidental good. Professor Burnet's proposal comes not unexpectedly, as it was announced in his edition of the *Phædo*. In one respect the writer is happy to find himself in agreement with our author; for both have held for many years that the problems considered in the earlier dialogues of Plato were really those of the fifth century B.C., and that the "Sophists" who discourse with Socrates are not mere pseudonyms for Antisthenes and his kind. But here the agreement in principle ends; for Professor Burnet holds that Plato gives an account of, say, Protagoras, which is essentially true and historical, whereas the writer maintains that this view is neither susceptible of proof, nor capable of explaining the data which any acceptable theory must take as its points of departure. The dialogues themselves contain unmistakable indications of restatements and developments of positions taken by prominent Sophists, which, however they may be minimized, are fatal to such a view. The ascertained practice of artists in kindred literary kinds, as in tragedy or the mime, renders such a theory highly improbable. Are the parts of Amphion and Zethus in the *Antiope* of Euripides historical? Or are the speeches of the 'historical' *Persæ* really historical? The concepts which are developed and criticised in the dialogues of Plato are those of the fifth century because, as the writer has long held, practically all scientific and philosophical concepts which play a conspicuous rôle in the thought of later times were then defined and enunciated with tolerable clearness. The case is not unlike that of German philosophy in our time. The fundamental problems and concepts were formulated and boldly proposed in the period extending from Wolff to Herbart; what has come since consists for the greater part of elaborations and varying combinations of the elements thus constituted. Even to-day it is perhaps more worth one's while to criticise the ultimate positions of Kant, Hegel, and Herbart, whether one chooses to present them in the terms of their creators or in a form suggested by latter-day developments, than to address one's objections to the system of one of the Epigoni.

That in the earliest of Plato's dialogues there is much of Socrates, no one presumably will doubt: that in the latest there is relatively little, is also unquestionable. To the eye of the reader the line may be called a continuum. The historical student cannot content himself with this otiose conclusion, but will endeavor to divide the line. The difficulty comes when one tries to find a natural point of cleavage. For Professor Burnet the *Thætetus*, *Parmenides*, *Sophist*, and *Philebus* are of vital importance, and the attentive reader will have to confess that at these crucial points his theory fails. Our author may be conscious only of the effort to defend his own procedure, but the critical spectator knows that the anxiety displayed betrays the weakness of the position taken. This is of course not equivalent to saying that nothing of value results from the discussion; on the contrary, at many points excellent interpretations of Plato are to be found, if only the reader is competent to weigh and distinguish.

In reconstructing Plato's philosophy—or, as some would prefer to say, his later philosophy—from data furnished by the later dialogues by Aristotle and by the Platonic *Epistles*, our author shows at his best, though even here one cannot follow him blindly. For example: one cannot accept without wincing his view, shared by other eminent authorities, that the *Epistles* are genuine. The opposite conclusion, at which the writer arrived twenty years ago, has been year by year more surely confirmed by frequent readings and continuous study. This is of course not meant to refute Professor Burnet; yet there are difficulties which mere blinking will not remove. Thus, to affirm that the words (*Ep.* II., 314 C, quoted by Professor Burnet, p. 212), "There is no writing of Plato, nor will there ever be. What go by the name really belong to Socrates turned young and handsome," are "a perfectly serious statement," is surely a hard saying, no matter how one may interpret the passage. How it can be said that words which are apparently silly are seriously intended *οὐκ οἶμαί γε τοῦ ἐπιτυχόντος εἶναι, ἀλλὰ πόρρω που ἤδη σοφίας ἐλαύνοντος*. While such passages—and the one cited does not stand alone—do not prove that there may not be considerable historical truth contained in the *Letters*, they are calculated to abate one's confidence in the collection as affording autobiographical statements regarding Plato's inner life and experience.

As a whole, then, the book under review is in the writer's opinion to be accepted for what it purports to be, to wit, one scholar's attempt to state his conclusions regarding a period of Greek philosophy to which years of intelligent, thoughtful work have been devoted. It

contains many innovations which, though giving evidence (to apply Plato's words) ψυχῆς στοχαστικῆς καὶ ἀνδρείας, fail to stand the test of the critical reader; but it is certainly provocative of thought, and, since such books are rare, it is destined to yield results which no man can forecast. There is not a dull page in the volume, and there are few which will not be found to have contributed something of value to the discussion.

One thing more ought perhaps to be said. The impression left by the book on the mind of one who is acquainted with the literature of the subject is not altogether pleasant because of the way in which credit is given for suggestions derived from others. Consistency in this regard is perhaps a counsel of perfection more easily given than observed; but where a few creditors are remembered and others are ignored it is to be expected that the latter will be more ready to forgive than to commend the procedure. At various points the writer felt sure that his monographs and scattered essays had given the suggestion which Professor Burnet embodied in his exposition, though he is credited with nothing but controversy (p. 27, note). Controversy is an idle thing, and no one is great enough to deserve to be made the subject of it. If there be nothing but controversy in an article or a book, it hardly merits the honor of being mentioned by a serious scholar.

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Philosophy of the Practical, Economic and Ethic. Translated from the Italian of Benedetto Croce by Douglas Ainslie. London, 1913, Macmillan & Company.—pp. xxxix, 591.

Clarity of conception, logical symmetry in divisions, absolute certainty of attitude mark the thought of Croce. Distinction of style and historical background, frequent allusions to general as well as technical literature, make a worthy vehicle for the thought. There is not a query, a 'probably' or a 'perhaps,' or an 'I think.' Instead there is a calm assurance which rests its case upon its positive statement or upon the inconsistencies of opposed doctrines. In its opposition to eudaemonism and utilitarianism it sides with Kant, "after whom no serious philosopher can be anything but a Kantian in Ethic" (p. 401). In its insistence upon a concrete universal as the object of the ethical volition, as well as in occasional employment of the dialectic process, it is Hegelian. In its definition of the universal as "perpetual development, creation, progress," it is in accord with the pragmatism which it denounces.

There is no compromise with empiricism. "The philosophical method demands complete abstraction from empirical data and from their classes, and a withdrawal into the recesses of the consciousness, in order to fix upon it alone the mind" (p. 9). Psychologically, for example, we may if we please classify certain processes as feelings, but "to classify is not to think philosophically," and such a psychological classification has no place in philosophy. And the relation of philosophy and ethics to history is equally independent. If we wish an empirical and naturalistic discipline it is appropriate to build upon historical material. But if by a science of the practical and of morality is understood a Philosophy and an Ethic, a demand for previous study of history "is an irrational pretension, because the true relation is exactly the opposite: from philosophy to history, not from history to philosophy" (p. 104). Indeed, "when we prove the historical origin of anything, with that very proof we destroy its universal value" (p. 101 ff.).

The philosophy of the practical is considered under three main heads: (1) The general nature of practical activity including (*a*) its relations to theoretical activity, and (*b*) its dialectic or the problems of necessity and freedom, good and evil. (2) The special forms of practical activity, namely, economics and ethics. (3) Laws.

Under Part One it is maintained that the theoretical and the practical exhaust the acts of spirit. Feeling, if by this we mean not merely psychological classes but a genuine act of spirit, not only does not exist; it cannot exist. Logical necessity requires two forms, a duality that is unity and a unity that is duality. Practical activity presupposes theoretical activity; the converse thesis that the theoretical depends upon the practical contains this much of truth, that there is unity of the spiritual functions. But pragmatism, "the school of the greatest confusion that has ever appeared in philosophy," confuses certain true theses as to the stimulating effect of the will upon thought, et cetera, with a substitution of the will for the work of thought. "Whoever in thinking says, 'thus I will it,' is lost for truth." In other aspects the independence of the practical is vigorously maintained. So-called practical concepts such as 'good,' and 'ideals,' are sometimes alleged to be presuppositions of will. In fact, judgments of value are posterior to the will. "This is a good thing" really means "I will this." The theoretical deals with the existent, the practical creates the future. It is not possible to will the existence of what exists. Volition is not the surrounding world which the spirit perceives; it is a beginning, a new fact. Error is not

ignorance; it is the affirmation of knowing what we do not know. "We err only because we wish to err." Croce even justifies the "Holy Inquisition," not in its ferocious practices but in its eternal idea—practical measures to induce the erring to correct themselves.

Under the dialectic of the will the dilemma of free *or* determined action is rejected. The volitional act is declared to be at once free and determined. It is determined because it must arise in a definite situation and must change with the situation, but it is also free because it does not remain fixed in an actual situation nor repeat and make a duplicate of it. Volition produces something new: it is initial creation and therefore act of freedom. And further, development of the dialectic gives the poles of good and evil which are nothing more or less than freedom and non-freedom. Evil is thus essentially a negativity or contradiction. Why is this contradiction? It is "owing to the multiplicity of the desires in respect to the singleness of character of the volitional act." Why should there be such multiplicity concurrent with the demand for unity? The answer to this is found in the very conception of evolution. "The inquiry into the dialectic of the volitional act enters in this way into the very heart of reality." In this section the Hegelian tradition is evident despite the translator's dictum in the preface to the *Æsthetic* that the Philosophy of the Practical "contains hardly a trace of Hegel."

Part Two employs the dual division into economic and ethic, which makes a very convenient classification of ethical or supposedly ethical categories. "The economic activity is that which wills and effects only what corresponds to the conditions of fact in which a mind finds itself; the ethical activity is that which, although it corresponds to these conditions, also refers to something that transcends them. To the first correspond what are called individual needs, to the second universal needs" (p. 312 f.). Utilitarian systems of ethics have simply confused these two activities, each of which is legitimate and important in its sphere. The calculation of pleasure and pain is out of place in valuing life, although calculation in economics is appropriate. "No one would wish to live his life again, not because the sorrows always exceed the pleasures, but rather because man is not a consumer of pleasures; he is a creator of life." Kant was right in maintaining the autonomy of ethics but failed to see that the useful, happiness, well-being, has an autonomy of its own. Kant was right also in insisting that ethic is formal, in so far as this means that spirit—the end of ethical will—is universal, although he was mistaken in the supposition that logical universality is itself the ethical universal.

What is the universal? It is "the Spirit, it is Reality, in so far as it is truly real, that is, in so far as it is unity of thought and willing; it is Life . . .; it is Freedom, if a reality so conceived be perpetual development, creation, progress."

Part Three defines Laws as the volition of classes of acts, as contrasted with processes which are not volitional, or as contrasted with economic and ethical acts which have for their content not classes of acts but individual acts. In ethical action one may be governed by principle; to be governed by a law may be a valuable step toward freedom or ethical will.

Such a summary must overlook the many fine *apperçus* and acute analyses. Not the least favorable feature of the book is its orientation of various philosophical views with reference to the author's own position. These features, added to the excellencies noted above, make the book a notable contribution to the literature of idealistic ethics.

Is such an ethical system an adequate account of the moral consciousness? Its fundamental dilemma has often been pointed out: either it must rest in such empty categories as unity, duality, universality, or it must borrow from experience the content which distinguishes love from hate, justice from injury, real freedom from formal freedom. And despite the author's criticism of Kant's formalism, it is difficult to see how his own principle of universality can escape the dilemma. Man "should will not only his own self individualized, but also that self, which being in all selves, is their common Father." "The moral individual has this consciousness of working for the Whole" (p. 446). How does one know of other selves and what can one know of them, unless by the give and take of coöperation and conflict, of suggestion and sympathy? A 'Whole,' even if spelled with a capital letter, is no more moral than a part unless it mean something quite other than a mathematical or logical unity; and, for one, I can not see how to get the ethical content which actually is found in the moral consciousness without some recognition of social factors; nor the full meaning of evil unless we consider not merely its character of 'negativity' but its actual consequences in hate, sorrow, disappointment, and remorse. Moreover, the author's doctrines of the universal as Progress, and of volition as in essence creation of a new, seem peculiarly difficult to reconcile with his doctrine that to prove the historical origin of anything destroys its universal, that is its moral value. The latter doctrine seems to rob volition of its greatest moral significance, namely reconstruction of ideals. In our day, particularly, it will be hard to convince men that they have no

responsibility in this respect. Nor will it be easily accepted that we have nothing to learn for our ethical philosophy, to say nothing of our moral guidance, by studying the struggles and achievements of the past.

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Prinzipien der psychologischen Erkenntnis: Prolegomena zu einer Kritik der historischen Vernunft. Von WALTER STRICH. Beiträge zur Philosophie, Nr. 5. Heidelberg, Carl Winters Universitätsbuchhandlung, 1914.—pp. vi, 363.

This book adds one more to the long list of books and articles dealing with the principles of psychology. In all this literature only one point seems to be absolutely clear, viz., that there is no substantial agreement about psychology, either in respect to its aim or its accomplishment. The exact nature of the principles which the psychologist must use to explain mind is apparently as much in doubt to-day as ever it was, a sad disillusionment for those who, only a generation ago, thought the problem was solved with the creation of the psychological laboratory. This disagreement does not, indeed, justify the scepticism which sees in mind an object so complex as forever to defy conceptual analysis, for it may be that the present ebullition of psychological methodology is only the prologue to a period of great psychological discoveries, somewhat as the early seventeenth century ushered in the physical sciences with a welter of logical speculation. Even now, perhaps, some psychologist is developing in use a method which, by its fruitfulness, will do for psychology what Galileo's work did for physics. Controversy over method may well be essential to progress, but until a recognized method shall emerge, the logical controversy is doomed at least to appear unfruitful, and to estimate accurately the value of any contribution to the controversy must remain impossible.

Accordingly we approach the present criticism of the principles of psychology with a measure of scepticism not shared by the author. For Dr. Strich the problem is an analysis of reason itself, and the results are to be legislative for the procedure of psychology; his purpose, indeed, is to show that an explanatory psychology is in principle impossible and that all such attempts are on a wrong tack. The object of his analysis of psychological principles is to lay the foundation for a critique of reason supplementary to that of Kant, which he seems to regard as final so far as it goes. Kant's critique, however, contains a dogmatic element in so far as Kant assumed that his pure reason is identical with reason in general (p. 4). Epistemo-

logical monism, which assumes that causality is the only instrument of knowledge, must be supplanted by epistemological dualism, which is based on the proof that knowledge of the mental does not follow the causal law. What is required is a critique of historical reason which shall do for the mental sciences what Kant did for the physical sciences. Such a critique would lay the logical foundation of history; the present work, however, is only the prolegomena. The principles which Dr. Strich seeks, therefore, are conceived by him as *a priori* forms of reason analogous and supplementary to Kant's categories. Kant himself, Dr. Strich holds, recognized the need for such supplementation when he assigned a value to teleology as a regulative principle in biology.

If we neglect the claim to *a priori* validity, it is clear that Dr. Strich's conception of a critique of historical reason involves two questions which may be, and in fact have been, considered as independent. The first and most general of these is the logic of the historical sciences, a question on which much has been written during the last few years, especially in Germany. The discontent with Kant's one-sided devotion to the physical sciences might almost be called general, and is a natural consequence of the fact that the historical and social sciences were as absorbing an intellectual interest for the nineteenth century as the physical sciences were for the eighteenth. This tendency may well be recognized as one likely to produce lasting changes in philosophy; indeed its effects are already well marked. The second question is the one to which Dr. Strich more particularly devotes himself, the question of the logical nature of psychology. He seems to consider it self-evident that the historical sciences are mental sciences and that psychology is the foundation of them (Preface). This is of course the traditional opinion, but it requires some justification in view of the fact that the most elaborate attempt so far to establish a logic for the historical sciences has taken another position. Windelband and Rickert have insisted that the historical sciences do not and cannot formulate laws of nature, but they regard a 'nomothetic' psychology as possible; hence they abandon the distinction between physical and mental sciences and deny the dependence of the historical sciences on psychology. Dr. Strich, on the other hand, keeps the familiar alignment of the sciences and regards the attempt to state laws in psychology as a blunder. The historical sciences are mental sciences and psychology is the fundamental historical science.

The fundamental opposition on which Dr. Strich bases his epis-

temological dualism is that between space and time. "Kant investigated knowledge only in so far as it is connected with space. There is, however, a knowledge which must be characterized precisely by the lack of space as a method" (p. 5). The distinction is between the categories by which phenomena are to be thought. In themselves phenomena as they are perceived are neither physical nor psychical. Metaphysically the world may be said to be merely the infinitely many series of the experiences of subjects; it is a world of monads, each monad having its own world of experience (p. 15). Tones and colors, for example, are in general merely *Weltbestimmtheiten;* they can be thought as belonging to nature, the system of things related causally in space, or to the subject, which is a temporal unity subsisting merely in the conscious relations of its contents (pp. 9 f.). Hence follow all the essential characteristics of the two kinds of knowledge. Natural science constructs the concept of a 'one' world in space, a world consisting of timeless elements causally related. No element in this world has a history, for each is eternal and unchangeable, except in respect to its spatial relations. The mental, on the other hand, belongs to no 'world' but only to the monad, the temporal system of the subject. Hence there are no mental elements, the relations of which 'in' consciousness psychology can formulate; the theory of mental elements, to the refutation of which the author devotes much attention, is an unwarranted spatializing of mind. There are only moments of experience which are felt as like other moments or different, and in all cases this identification is a purely mental process not explainable by the objective likeness of the stimuli. Moreover, what we call a moment is determined solely by the synthesis of experience. The subject is not 'in' time, as the scientist understands time; it *is* time, a series of absolute moments (pp. 51 f.). Clearly, then, psychological knowledge is historical, since any moment can be understood only by its relations in the sequence of moments; similarly, there can be only individual psychology, since there is no mental 'world' but only the moments of monads.

The point of view of the book thus outlined in Chapter I is elaborated and applied in the later chapters with considerable repetition. The fundamental category of historical reason is will (Chapter III). As selective attention, will is active in both thought and perception; in no case can this selective capacity be explained by association or by the effect of the stimulus. Will is not a phenomenon but 'an idea *a priori* of the psychological reason' (p. 101). Its act must be conceived as a creation out of nothing (p. 97). In the historical reason,

therefore, end plays a rôle analogous to that of cause in pure reason, for a temporal unity implies an end (p. 129). In a developing series the end is present from the beginning as immanent determination or will (pp. 134, 144). The opposition between the pure and the historical reason thus corresponds to that between what is and what ought to be (p. 169). "The reality of the historical moment is not grounded in a preceding reality of which it is merely a change, but only in the reality of the historical subject. As the act or creation of this it exists. Real time is an eternal creation out of nothing" (p. 170). "The world, historically considered, we can define only through the act of the ego" (p. 194).

The conception of the subject, however, is extended to include the organism, and therefore biology is held to be an historical science; 'soul is only another name for the unity of life' (p. 161). Life or the organism is a necessary category of thought, a principle *a priori* (pp. 57, 110, 159 f.). Biogenetic laws, therefore, are not laws of nature; they are only the recounting of a self-repeating history (p. 134). In general, the individual nature of psychology is no bar to generalization (pp. 322 ff.). Events may be repeated without end and individuals may be alike to any extent; there is therefore a psychology of groups, *e. g.*, of Americans or of artists. In no case, however, can these generalizations be called laws of nature, since the latter term applies only to the relations of timeless elements.

The aim of pure reason is explanation (*Erklären*); that of historical reason is understanding (*Verstehen*). Psychology is intuitive rather than inductive; ultimately psychological knowledge is self-knowledge. The thought or action of another can be understood only in so far as it can be re-experienced in ourselves; we understand another only when we realize his purposes and the situation in which he acts, ultimately when we understand his character. For psychology, then, the standpoint of solipsism is justified; only so far as likeness exists is there a bridge from one monad to another (p. 320). The process thus described, while it refers to an obvious fact, is scarcely adequate as an account of sympathetic knowledge. The mere similarity of my experience with another's would surely never convince me that these experiences really belonged to another. The author, however, does not discuss the relations between his monads.

It is evident that Dr. Strich's analysis of the historical reason brings together concepts that at least appear to be very different. Granting that biology, psychology, and history do involve real process and that the physical sciences do not, it is still a question whether their

differences are not logically more important than their similarity. In particular, history is not thus accounted for. The historical interest in events as unique appears to be a different kind of interest from that in processes which are indefinitely repeated, even though both may equally be processes. The fact is that Dr. Strich overestimates the logical differences between the generalizations of biology and psychology on the one hand and those of the physical sciences on the other. It is indeed true that the former do not concern 'timeless' elements but only the repetitions of temporal unities. But the laws of timeless elements do not have a sort of generality at large, as he seems to suppose. They are hypothetical statements of something that is universally true under certain conditions. What these conditions are is not determined *a priori* but by the needs of the science. If, then, it should be necessary, as Dr. Strich supposes, to assume the organism as a category, certain propositions might be universally true under the conditions imposed by that category. Such propositions would then be logically similar in nature to the laws of mechanics, even though they carried a teleological implication, and the relations expressed would be as 'timeless' as those between two atoms. The same is true of psychological generalizations. The more fundamental distinction would then lie, as Rickert maintains, between these efforts to generalize, from whatever point of view, and the historical interest which aims to express the individuality of its subject matter in a series of unique values.

GEORGE H. SABINE.

THE UNIVERSITY OF MISSOURI.

A History of Philosophy. By FRANK THILLY. New York, Henry Holt and Company, 1914.—pp. xv, 612.

The idea of an orthodox philosophy is, to use Berkeley's phrase, a manifest repugnancy, and nothing is more abhorrent to the spirit of philosophy than the attempt to give the student the one tenable theory of the universe; as nothing is more distressing to a teacher than to have his pupil bolt his ideas and regurgitate them, on demand, for inspection. So, in spite of the familiar criticisms, which recur at regular intervals, the introduction to philosophy by way of its history remains the best method of approach, for it is the only way in which a student has any chance of being protected from the prejudices of his instructor. Prejudices may, indeed, peep through the cloak of impartiality in which the historian hides, but a free use of the sources will minimize their influence. One sends a student to the history of philosophy that he may sojourn for a while in the worlds of those whose vision has been broadest, in order that he may be able to face

present day problems from the vantage ground of the history of thought,—just as the much traveled man when he returns home is able to view his native land and its problems in larger perspective. The history of philosophy is a cure of the provincialism which comes from isolation in time,—in one's own time, and from isolation in some little hamlet of the world of mind. The value of the study is obvious, its aim clear, but, where is one to find a suitable textbook? I suppose every one's experience here is pretty much the same. One tries one book after another, and is never quite satisfied with any. And so a new history of philosophy by Professor Thilly, who is already so well known as a past master in the art of clear exposition, is sure to receive a ready welcome from all teachers of the subject, and to be given a fair trial.

Many of the virtues of the work are apparent at a glance. Professor Thilly has, with a large measure of success, lived up to his own determination to preserve an impartial and objective attitude, and to keep his own views from obtruding into his discussions. Only once in a while does he forget himself and let the critic get the upper hand, as in his treatment of John Stuart Mill. He has, moreover, in dealing with the different philosophers, continually sought to emphasize those of their views which were historically most significant in determining the course of philosophic thought. This is what a history of philosophy must do if it is not to be a mere record of the *placita philosophorum*, which is what too many historians, with the Teutonic conception of thoroughness, have given us,—as dreary a business as Homer's catalogue of ships, and quite as futile. And so Professor Thilly has succeeded in bringing out the continuity of the development of philosophy without distorting the views of the philosophers. Most histories of philosophy are either histories with a purpose, the purpose, namely, of establishing the historian's own philosophy as the sum of the wisdom of the ages; or else they give us a succession of philosophies which resemble kaleidoscopic pictures, each pretty after its fashion, all intricate and more or less fantastic, and none very definitely related to what goes before and what comes after. Professor Thilly has hit the happy mean.

It is another excellent feature of this work that it brings the history of philosophy up to date. Many of the philosophers who have become influential in recent times have indeed to be summarily presented; but nowhere is Professor Thilly's skill more manifest than in the way in which he succeeds in packing the gist of the matter into a few pages or paragraphs, and putting his reader forthwith at the angle of vision of the philosopher in question. Curiously enough, he seems more

successful in doing this in the case of the philosophers whose views are opposed to his own than of those who are his brothers in the faith. For example, to represent Professor Royce as a mere continuer of Hegel, is misleading and inaccurate. Professor Royce has recently put himself on record in definite protest against this slander.

Last, but not least of its virtues, the book is written throughout in a simple, clear, definite, straightforward style.

Professor Thilly gives approximately half of the book to modern philosophy, a quarter to ancient, and a quarter to medieval (including the Renaissance). In assigning so large a proportion of space to the middle ages the conscience of the historian has been satisfied at the expense of the serviceableness of the work as an introductory textbook. Nothing can, indeed, be more unjustifiable than the cavalier way in which the whole medieval period is all too frequently disposed of in non-Catholic texts. Yet one may well question the wisdom of giving a quarter of the book to that period, and for this reason: the way of life, and the fashions of thought, in the middle ages make the medieval mind far more remote from us than the Greek. To understand the greatness of that period, to appreciate the vitality of its thinking, one must literally soak in its atmosphere; one must bring to life again the experience of which the medieval philosophers were the interpreters, and this means a thorough study of the whole historical, social, political, religious and intellectual setting. Apart from this, one is pretty sure to carry away the old prejudices, that the medieval philosophers spent their time in idle and profitless debate, and in the spinning of hyper-subtle distinctions. Failing such an exhaustive study, one had better be content to sample the medieval mind by extensive reading in one or more of its representative writers.

This may seem an ungracious criticism, for what Professor Thilly has undertaken to do he has accomplished with rare skill. But looking at the matter from the point of view of the teacher in search of textbooks, I could wish that the work had been published in two volumes, sold separately. The section devoted to the modern period is by far the best part of the book from the point of view both of scholarship and of execution. It is particularly refreshing to find the German philosophers of the great period interpreted with a clearness and elegance truly French.

In dealing with the early Greek philosophers Professor Thilly has given a clear and compact statement of what are usually regarded as their most significant ideas, under the captions, The Problem of Being, The Problem of Number, The Problem of Change. One seems to catch here an echo of Hegel and Windelband, and the headings

are misleading. Surely change was not a 'problem' to the Heraklíteans; it was the fundamental fact. The problem with the Pythagoreans was not so much number, as rather the sway of number in nature. Still any attempt at such simple classification is inaccurate. Professor Thilly's account here is too clear-cut to be intelligible. It is too much as if Thales awoke one bright day and said: "I guess the world is made of water." Later comes Anaximines and says: "Let us try air." The importance of the pre-Socratic period lies in the fact that then certain concepts first took shape which have ever since, for good and for ill, influenced the whole course of speculation. To appreciate their appearance and their hold one must see how they emerge from the tangle of confused ideas found in the early gropings of science and of philosophy. In particular is it necessary to make more of the beginnings of science, and especially of the brilliant work of the too much neglected pioneers in medical science.

The most disappointing part of the work is that which deals with the great Greek triumvirate. This is largely due to the fact that Professor Thilly has not allowed himself enough space. Abstractly, and from the point of view of modern prejudice, it may be justifiable to give nearly twice as much space to Spencer as to Socrates, more to Mill than to Plato, more to Locke than to Aristotle. But in view of the immense influence which these Greeks exerted, not only in the middle ages, but on all subsequent western thought, and in view of the greater difficulty in interpretation, this is, waiving all question of relative value, an error of judgment.

In the account of Socrates Professor Thilly has leaned too exclusively on Xenophon. Some recent writers may have gone to the other extreme in ascribing most of Plato to Socrates. But, if so, it is certainly an error in the right direction. There is nothing in Professor Thilly's portrait to make one say, that is the way the man must have looked who could exert such unparalleled influence on his pupils.

Plato, however, suffers most. His philosophy, when reduced to the dry bones of logic, resembles but little the Plato of the Dialogues. One must deal with Plato's philosophy as one would with the philosophy of any poet. It is rich and varied and many-sided, and in very truth an interpretation of life. The key to his vision may indeed be found in the 'doctrine of ideas,' but that doctrine was never with Plato cut and dried. It receives its best, its concretest interpretation in the sixth and seventh books of the Republic. But how barren the doctrine seems when we read that "the universe is conceived by Plato as a logical system of ideas: it forms an organic spiritual unity, governed by a universal purpose, the idea of the Good, and is, there-

fore, a rational moral whole" (p. 64). This is Plato phlebotomised. Compare Thilly's account with the living interpretation which Nettleship has given. And where do we find Plato ever teaching that "knowledge is the correspondence of thought and reality" (p. 62). Throughout this account, brevity accentuates the defects of our author's virtues. The story is often made simpler than the facts warrant. For example, in ethics, Plato is represented as having two distinct, and apparently unrelated, conceptions of the good life: one, more in accord with his metaphysics, which leads to asceticism and mysticism,—the view of the Phaedo; the other, a concession to the fact that the soul is after all fettered by the body, which leads to the soberer interpretation of the cardinal virtues, as worked out in the Republic. But surely these are not simply two alternative views. Was Plato ever caught in orphic dualism? I doubt it, although there is an undercurrent of orphicism in many of the Dialogues, including the Republic. But when Plato has made the Republic, the best and completest expression of his philosophy, center around the discussion of righteousness, in the individual and in the state (δικαιοσύνη is a more general term than our "justice"), we should interpret his other, and more fragmentary statements in the light of that work.

Aristotle is fairer game, for his language is generally as wizened as his physiognomy is said to have been, and it was he who first taught philosophy to speak a *jargon apart*. But when Professor Thilly seeks to give English equivalents of the technical terms the result is not always enlightening or defensible, as, for example, "dynamic" for δυνάμει ὄν, and "realization or completion" for ἐντελέχεια. But the fault we have to find with this account is not so much that it is inaccurate in details as rather that, as a whole, it fails to give an adequate impression of the living value of Aristotle's vision. This is not the man whom Suetonius described as "Nature's private secretary, dipping his pen in intellect," not the man who was for Dante the "master of those who know," not the man in order to study whose works Goethe wanted to live over again.

It requires courage in these days to write a comprehensive history of philosophy, and of course the critic can always find many minor points of interpretation to which he would take exception. But that is a profitless business. Of the work as a whole we can only speak with approval. It possesses so many rare and striking excellences that it is not at all unlikely that experience will prove it to be the best introductory book in the field.

CHARLES M. BAKEWELL.

NOTICES OF NEW BOOKS.

Die Philosophie des Unbewussten. Von W. WINDELBAND. Festrede gehalten in der Gesamtsitzung der Heidelberger Akademie der Wissenschaften am 24. April, 1914. Heidelberg, Carl Winters Universitätsbuchhandlung, 1914.—pp. 22.

From the time of Descartes to the present, the hypothesis of the unconscious, in one form or another, has never been absent from modern philosophy; it is to be found in the systems of Leibniz, Fichte, Schelling, Schopenhauer, and von Hartmann, while the notion that the conscious is only the upper limit of activities rooted in the unconscious is to-day a common belief both of popular and technical psychology. Looked at from the standpoint of methodology, the hypothesis presents the following peculiarities: It is not strictly verifiable, since the unconscious as such cannot be experienced; it can be called into operation only where the physical substrate of mind is insufficient to explain the facts; it presupposes that the mental may be either conscious or unconscious, for the unconscious is not merely the physical.

The first great mental fact that calls for the application of the unconscious is memory. So far as memory is merely passive, it may be referred to the traces of earlier excitations in the brain substance. But reproduction takes place according to all sorts of meaningful connection; memory is therefore a system ordered according to meaning, and this cannot be conceived by any scheme of brain tracings. The second fact that demands the unconscious is implication, the fact that an idea seems to include all that is implicit in it, even though much of this may not be conscious. The implicit goes far beyond memory; for all the geometrical properties of a triangle, for example, may be said to be implicit in its definition and in the nature of space. Thus in general the valid *a priori* is always an unconscious element in experience which points to a higher regularity working in the individual. Empirically this leads to the social life, as in language. It suggests also a *Bewusstsein überhaupt*, but this goes beyond experience.

From the time of Descartes's sharp distinction between *res cogitans* and *res extensa* there has been a general tendency to identify mind with consciousness. This has been evidenced by the effort of physiological psychology to parallel mental state with brain state, and by the traditional but inadequate contrast of mental and physical sciences. If, however, as seems likely, psychologists are led more and more to the admission of an unconscious, the identification of mind with consciousness must be given up, and this must lead to a revision of the concept of mind and of its metaphysical presuppositions. The establishment of psychology as an empirical science does not alter the fact that of all sciences psychology stands in the closest relations with philosophy.

GEORGE H. SABINE.

THE UNIVERSITY OF MISSOURI.

Work and Wealth. A Human Valuation. By J. A. HOBSON. New York and London. The Macmillan Company, 1914.—pp. xvi, 367.

While this is an economic rather than an ethical treatise, it will be of interest to philosophical readers because of its attempt to give an ethical evaluation to economic laws and processes. The *summum bonum* is "human welfare," or "organic welfare," the latter biological term being "extended so as to cover the entire physical and spiritual structure of human society" (p. vi; cf. pp. 12–16). Every act of production, distribution and consumption must be valued with regard to its aggregate effect upon the life and character of the agent, and upon the social organism. In ordinary economics 'costs' appear entirely on the production side, and 'utilities' on the consumption side of the account. On the contrary, in his 'human valuation,' Mr. Hobson finds that some production, like the creative work of the artist, is practically devoid of 'human costs' and contains great 'human utility' to the producer himself, as it affords him pleasure and self-realization. His 'cost' is therefore simply his 'keep' (p. 44). 'Human costs' keep increasing as work becomes less creative and more imitative, and in sweated labor outweigh 'human utilities' altogether. The 'human utility' of consumption varies with the consumer and the quantity of goods that he consumes, and some forms of consumption involve very heavy 'human costs' (p. 159).

The standpoint of 'organic welfare' with its 'human values' and 'human utilities' furnishes a suggestive mode of analysis which is applied to a wide variety of the subjects discussed in economic treatises, such as the origins of industry, real income, the costs of industry (here of course 'human costs'), machine production, the supply of capital, the 'human costs' and 'utilities' of distribution and consumption, scientific management, and the distribution of leisure.

The psychological motives that lead to the accumulation of capital are analyzed in a suggestive way. Mr. Hobson thinks that much of the accumulation is due to the "automatic saving" of the surplus income of the rich, and is therefore "costless," while middle class saving involves 'human cost,' and that the inducement of interest is therefore necessary to evoke it. The savings of the working class are made at very heavy 'human costs' and are undesirable. It seems as if Mr. Hobson ought to recognize a large 'human utility' in thrift and the development of character that attends it.

The "human law of distribution" is that each should contribute in accordance with his ability to each in accordance with his needs (Chap XII). Neither ability nor needs, however, are equal. The services exacted of different members of society should therefore vary with the capacity to perform them without excessive 'human cost.' Some, through taste and talent, are capable of larger desirable consumption, and therefore equality of opportunity according to needs means some inequality of income (pp. 164, f.).

The 'human' claims of labor are forcibly presented. Labor should not be bought and sold like a dead commodity on the market, in which rates of wages are regulated by some natural, fortuitous, or organized scarcity of

supply quite beyond the control of a working family and bear no relation to its human needs. Piece work is "the most complete denial that the human needs of the worker have any claim to determine what he should be paid" (p. 192).

The inducement to individuals to perform efficient social service rests upon the recognition of society as an organism. Consequently the author is at some pains to develop this conception in his later chapters. After it has once become fully recognized that society possesses a unity and life of its own, each will find in social service, not a sacrifice, but an enlargement of his personality. Sound as is this ethical doctrine, Mr. Hobson's attempt to work out a philosophical statement of society as an organism seems crude, and he overworks the analogy between individual citizens and cells in a biological organism.

This volume will in no sense serve as a substitute for traditional interpretations, either in economics or in ethics, and still less as a synthesis of the two. The economic process does not now go on under the regulation of 'human costs' and 'organic welfare,' and it is doubtful whether it ever will be able to do so. Nor am I convinced that it would be wholly desirable from an ethical point of view that it ever should. But, however that may be, a normative treatment, like Mr. Hobson's method of 'human valuation,' can never take the place of a factual description of economic processes as they actually do go on. Moreover, Mr. Hobson makes large use of some very questionable economic doctrines, like that of surplus value. He arraigns the leisure class severely, and perhaps with justice, but without allowing at all for the 'human' services which it performs. Even the devil, one would suppose, ought to have his due. On the ethical side the book is inadequate in the vagueness of 'organic welfare' as the moral ideal. The antithesis between 'human costs' and 'human utilities' seems to rest upon an uncertain psychological basis. The analogy of society to an organism is crudely put, and probably exaggerated, fine and true as are some of the ethical conclusions deduced from it. But the method of 'human valuation' may well supplement, although it must not supplant, traditional methods of interpretation. And perhaps this is all that the author means to claim for it. As a pioneer work in the highly important but neglected *terra incognita* that has been permitted to grow up between the fields of economics and ethics, Mr. Hobson's volume is highly valuable, and deserves careful study.

WILLIAM K. WRIGHT.

CORNELL UNIVERSITY.

Mechanism, Life and Personality. An Examination of the Mechanistic Theory of Life and Mind. By J. S. HALDANE. New York, E. P. Dutton and Company, 1914.—pp. vii, 139.

This little book is made up of four lectures delivered in the Physiological Laboratory of Guy's Hospital. It is of especial interest because the author is not only well-known as an eminent and active physiologist, but also as a philosophical student and writer. It is the breadth of view and critical spirit

derived from his philosophical studies, one feels safe in asserting, that enables Dr. Haldane to see that "if the mechanistic theory is wrong, this does not prove that the theory of the vitalists is right." Indeed, he dismisses vitalism summarily as "unproved, unintelligible, and practically useless as a scientific working hypothesis" (p. 30). The trouble with the vitalistic theory is that it stands on the same plane, as it were, with the theory of mechanism. "As they [the vitalists] admitted the hypotheses of physics and chemistry with regard to the material and atomic constitution of the universe, and based all their observations and methods on these assumptions, the natural consequence was that in matters of detail they always found themselves with either what appeared to be physical and chemical phenomena or with something unintelligible" (p. 62).

Dr. Haldane is, however, mainly concerned with an examination of the mechanistic theory of life. He points out that the mechanical theory had a certain methodical justification during the older period when physiological research followed methods that were crude and primitive, but that the aims and direction of modern investigation are making more and more evident both the impossibility and the inadequacy of this mode of explanation. "As a physiologist I can see no use for the hypothesis that life, as a whole, is a mechanical process. The theory does not help me in my work; and indeed I think it now hinders very seriously the progress of physiology. I should as soon go back to the mythology of our Saxon forefathers as to the mechanistic physiology" (p. 61). In the general plan of many modern text-books of physiology, the author says, there is absolutely no place left for the living body as such. "The fact that the body lives as a whole, each organ or part fulfilling its proper functions and adapting itself to every change, is scarcely touched upon, while vast mass of unrelated and unassimilable material is carefully recorded and described" (pp. 91–92). What is necessary, Dr. Haldane maintains, is to abandon the attempt to write the account of living things in terms of mechanical causality, and to adopt frankly the category of organic determination. This is the idea which guides physiology at every turn, suggesting new problems for investigations, and determining the divisions of the subject. "To leave it out of account in physiology, or to treat it as an 'heuristic principle' of very uncertain value, seems to me about as foolish as it would be to reject the idea of mass in chemistry and retain the phlogiston theory, as Priestley and Cavendish actually did until their deaths" (p. 88).

To adopt the category of life as a basis for physiology involves, as the author goes on to explain, the abandonment of the assumptions of the mechanistic theory with regard to the world as a whole. Even in physiology the idea of life carries us beyond the individual organism to a wider organic whole apart from which many of its functions are unintelligible. But when the characters that belong to conscious organisms, or persons are considered, still further consequences of this new conception become evident. It is to this subject that the author devotes his fourth lecture, which is entitled 'Personality.' The philosophical conclusions which are here indicated belong in

general to the point of view that is described as 'objective idealism.' The lectures were written for students of physiology, and one does not expect to find more than an outline sketch of a philosophical position. The main interest of this little volume for the philosophical reader is to be found in the fact that it is a vigorous protest by a well-known working physiologist against the view, still very widely accepted, that it is only in the causal terms of the physical sciences that the nature and functions of living organisms become intelligible.

J. E. C.

The Ethical Implications of Bergson's Philosophy. By UNA BERNARD SAIT. Archives of Philosophy, No. 4. New York, The Science Press, 1914.—pp. 183.

In leading up to the special theme indicated by the title, two thirds of this book is devoted to a detailed, systematic statement of Bergson's views on almost every subject in the field of his writings. The work is based on an exhaustive study of everything Bergson has published, and exhibits extraordinary industry. In consequence it is the most complete and systematic account in English of Bergson's teachings. It does not at all fall into the class of 'introductions' to Bergson for beginners; it is too full and perhaps too dry for that. But it is of decided value in correlating each part of Bergson's teaching with the rest, and in giving the substance of his teaching divested as far as possible of the master's brilliant style and illustrations.

It is surprising to find how well Mrs. Sait has been able, without forcing the thought, to bring together the contents of the various writings into a unitary whole. The prime difficulties in Bergson's philosophy, indeed, will be thought by critics to stand out all the more saliently; but around these the interconnections of the various teachings are clearly drawn, and on the whole convincingly. There is no trace of the rhapsodic praise too common in admirers or Bergson. In fact the author does not commit herself to more than a provisional acceptance of his views. But she admirably succeeds in presenting those views in a colorless, deliberate and comprehensive exposition.

On the ethical side the work passes beyond exposition. The author recognizes Bergson's failure as yet to deal explicitly with ethical and religious problems, but maintains that there are, however, certain implications of his philosophy which, if carried out, would have a definite ethical and religious bearing. This leads her to undertake to construct the ethical doctrines that seem to be implied in the views which Bergson has expressed on other subjects. In this connection it is found necessary to correct or broaden Bergson's account of society. The creative impulse which has become scattered in different worlds and in different species and individuals in this world, tends to work out an adjustment with matter in diverse ways, usually at the expense of its own freedom. In man only does conscious intellect leave room for intuition to get back into the depths of its own duration and attain true freedom. But the personalities of all men are rooted in a common life-principle, and enter into their own free being more fully as they attain relations of sympathy with

each other. Bergson has described the common life of men only in terms of their intellectual acquisitions and practical achievements; but beyond these there is, correlative with the differentiation of personality, a social interpenetration on the deeper levels of intuition which is the method of real freedom.

Without aiming to contradict Bergson's non-teleogical theory of evolution, the author presses as far as she can those general tendencies of the life-impulse that make for progress of a more or less definite character. She gets here something very like a purpose. "The direction of the life-principle is surely being best expressed in so far as there is fuller realization of social harmony as based on the interpenetration of the deeper experiences of men." This direction of life toward social harmony gives a standard of value, in terms of which Mrs. Sait then works out acutely and in some detail a general ethical theory of good and evil, right and wrong, and the various moral attitudes toward these. In this she has been influenced by the point of view of Professor Dewey. For the student of Bergson the contributions of special value here are the suggested enlargement of Bergson's view of freedom on the side of its social significance, and the interpretation of the fundamental movement of life as in some sense purposive.

J. FORSYTH CRAWFORD.

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Milton and Jakob Boehme: A Study of German Mysticism in Seventeenth-Century England. By MARGARET LEWIS BAILEY. Number 1 of *Germanic Literature and Culture: A Series of Monographs*, edited by JULIUS GOEBEL. New York, Oxford University Press, 1914.—pp. x, 200.

The author of this monograph has not been successful in showing that Milton was influenced by Boehme, nor is she able to give objective evidence that the poet knew of the work of the "Teutonic philosopher"; though his "industrious and select reading," and his promiscuous perusal of "all manner of tractates" make it probable that he had seen some of Boehme's writings. Miss Bailey's failure to appreciate the range of Milton's reading, with her consequent attribution to Boehme of ideas drawn from other sources, is the weak point in her book. She assumes that the poet was affected chiefly by the popular ideas of his time, and forgets the more important literary influences. For example, his account of the earthly paradise (p. 157) may be fully explained by reference to many authors with whom he was well acquainted, from Ovid to Samuel Purchas. On occasion, she even overlooks his familiarity with the Bible, and makes the words

> the Pleiades before him danced
> Shedding sweet influence (*P. L.* 7. 374–5)

a proof of the similarity of his beliefs to those of the German, from whom she quotes: "the stars or constellations operate in man," etc. Milton is obviously thinking of Job 38. 31: "Canst thou bind the sweet influences of Pleiades?" And to make the poet's allusions to astrology an evidence of his affinity with Boehme is absurd. Indeed, there seems to be in him little trace of the doctrines

that especially distinguish the mystic. Milton's familiarity with Neoplatonism came partly from the very authors whom Miss Bailey mentions in her historical survey, without suggesting that he had read them; there is direct evidence for his acquaintance with Porphyry, Saint Augustine, Thomas Aquinas, and "thrice great Hermes" (*Il Penseroso*, 88), who according to the monograph is the "father of magic" (p. 7). The context in *Il Penseroso* reveals something of its author's study of magic, and suggests the Kabbala. Further, Milton had some knowledge of the important Neoplatonist Philo Judaeus, and was a devoted student of Plato himself. His understanding of Neoplatonism and magic, from classical, Jewish, and Christian sources, surely ought to be investigated. The author's statement that the idea of the temptation in *Paradise Regained* could not have been obtained from any other source than Boehme (p. 160) hardly endures comparison with Calvin's exegesis of the temptation in his *Commentary on a Harmony of the Evangelists*. A command of theologians and commentators, such as the Fathers, and Calvin and Paraeus, was an important part of the poet's intellectual equipment. It will remain difficult for any one properly to estimate him until this almost untouched subject has been systematically dealt with.

Though unfortunate in its main problem, the monograph is of value. It recognizes the importance of Neoplatonism in literature, and endeavors to deal with certain manifestations of it. One may hope that the work will stimulate other students to trace the effect of the Alexandrian philosophy on literary thought up to the present; the subject is little understood and of great significance. Miss Bailey's account of current English mysticism in the time of Milton presents material that no student of the period can afford to neglect.

ALLAN H. GILBERT.

CORNELL UNIVERSITY.

La Riforma della Dialettica Hegeliana. Giovanni Gentile. Messina, Guiseppe Principato, 1913.—pp. ix, 306.

This is an interesting and instructive collection of essays by the Italian neo-Hegelian Gentile, all of which except the first, from which the book takes its title, have already been published in various Italian periodicals during the years from 1904 to 1912. The common purpose running through these papers is to help in clarifying, in diverse ways, the fundamental notion underlying the reform of the Hegelian dialectic. All of them, indeed, center around the problem of the identity of history and philosophy, and all of them lead towards the author's own system of thought (a new Hegelianism), a philosophy of absolute immanence, which he describes as an "actual idealism" ("because it considers the idea, which is the absolute, as *act*") or as "an absolute spiritualism" ("because only in an absolute idealism, which conceives the idea as act, everything is spirit"). "Thought is being and the consciousness of being, life and the mirror of life." The process of reality, this infinite and eternal dialectic which is thought, is *history*, hence philosophy is history and is the conquest of history in the thinking of it: it is living history in the thought of history;

thought, it is to be observed, always conceived as pure activity, and therefore never limitable by the empirical determinations of the fragmentary history in space and time: our thought, but absolutely *ours*, because absolutely *actual* (p. 258). "The history of thought becomes in the new dialectic the process of reality, and the process of reality is no longer conceivable except as the history of thought. The ancient man felt himself melancholically separated from reality, from God; the modern man feels God in himself, and celebrates in the potency of the spirit, the true divinity of the world" (p. 7).

The following essays are included in the volume: "The Reform of the Hegelian Logic and B. Spavento." "Origin and Significance of Hegel's Logic" (suggested by Professor Baillie's book), "The Concept of the History of Philosophy," "The Circle of Philosophy and of the History of Philosophy," "The Value of History and the Formal Absolute," "Kantiana," "Two Historians of Philosophy" (Zeller and Höffding), "The Concept of Progress" (criticism of Delvaille's *Essai sur l'histoire de l'idée de progrès*), "The Activity of Thinking as Pure Activity," and "The Method of Immanency." One of the satisfactory features of the present work (and of Italian books in general) is its acquaintance with and consideration of the literature of other lands than the writer's own.

FRANK THILLY.

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The following books also have been received:

Know Thyself. By BERNARDINO VARISCO. Translated by GUGLIELMO SALVADORI. London, George Allen and Unwin, Limited, 1915.—pp. xxix, 327. $2.75 net.

What Ought I to Do? An Inquiry into Morals. By GEORGE TRUMBULL LADD. New York, Longmans, Green, and Co., 1915.—pp. 311. $1.50 net.

American Thought. By WOODBRIDGE RILEY. New York, Henry Holt and Company, 1915.—pp. viii, 373.

A Historical Introduction to Ethics. By THOMAS VERNON MOORE. New York, American Book Company, 1915.—pp. viii, 164.

Light from the East. Studies in Japanese Confucianism. By ROBERT CORNELL ARMSTRONG. University of Toronto Studies in Philosophy. Published by the Librarian, University of Toronto, 1914.—pp. xv, 326. $1.50 net.

Germany in the Nineteenth Century. Second Series. By A. S. PEAKE, BERNARD BOSANQUET, and F. BONAVIA. Manchester, The University Press, 1915.—pp. xvi, 254. $1.25 net.

The Good News of a Spiritual Realm. By DWIGHT GODDARD. Ann Arbor, Dwight Goddard, 1915.—pp. 379. $1.00.

The Theory of Psychoanalysis. By DR. C. G. JUNG. Nervous and Mental Disease Monograph Series, No. 19. New York, Journal of Nervous and Mental Disease Publishing Co., 1915.—pp. 135.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Bul.* = *Psychological Bulletin*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mèt.* = *Revue de Mètaphysique et de Morale*; *Rev. Nèo-Sc.* = *Revue Nèo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *Rev. de Ph.* = *Revue de Philosophie*; *R. d. Fil.* = *Rivista di Filosofia*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

Die Religion als Problem der Philosophie. JULIUS FISCHER. Ar. f. sys. Ph., XX, 4, pp. 427–464.

Religion as part of the problem of philosophy includes the concept of God, and the concept of man's relation to God. Since it goes beyond experience, the concept of God is metaphysical. In order to make religion a problem of reason, we must find a rational connection between metaphysics and experience, between the unconditioned and the conditioned. We may start with the proposition that out of nothing nothing comes. This proposition rests for proof on experience, but is supported also by reason as having apodeictic certainty. Sensory impressions precede judgment *temporally*, but *logically* they presuppose rational principles of this sort. Kant recognized this necessary and effective presence of reason in the twelve categories, but held that they have no objective significance apart from us, so that they can assert nothing concerning the unconditioned. He taught expressly however that appearances have objective reality. This is in effect to say that causality is valid objectively and so unconditionally. Causality depends ultimately on the proposition that out of nothing nothing comes. Now all experience comes to us in space and time. We might naturally expect these to be ideal forms of our subjective thought activity in Kant's sense, and also objective forms of the real world. Time and space are infinite, since neither can be limited by anything but itself. We must distinguish here the mathematical and logical concepts of infinity. In mathematics we seem to infer the infinity of the finite. We mean however not infinite magnitudes, but simply the infinite possibility of the enumerating process in consciousness. From this concept we cannot conclude to the reality of time and space. Logically the concept of infinity is first a negation and then a transformation (Aufhebung) of the finite. So it transcends the visible world, and is in so far a metaphysical

concept. The mere thinkableness of this idea does not however prove it real. But there is a difference between the infinity of time and that of space, for space appears as real in all its parts, and so is present in its infinity. Time on the other hand is present only in the moment, the 'now.' Time passes and presupposes therefore something which persists independently of it,—*i. e.*, unconditioned eternal energy, which in order to persist takes form in space. So time and space are the real forms of the eternal energy. Matter, which depends on space, is derived from this energy. From such a metaphysical point of view scientific conclusions remain valid, but further conclusions can be adduced to extend the scientific view of the world, in order to account for life and thought. Now the proposition "Out of nothing nothing comes" is as valid for metaphysics as for experience. The limits of our experience imply a reality behind them. The concept of development, in which we might seek for this reality, requires a beginning and an end, but development is in time, and time is infinite. We are led therefore to the metaphysical assumption that the highest being is in itself eternally present, but appears to our consciousness as development. What can we know of this being, of its relation to the world development and to us? Now the unconditioned is rational because it is logically necessary to our thought, as the final conclusion from the concept of cause and effect. Kant takes experience as his presupposition and so makes causality subjective. But we find on the other hand that experience presupposes causality as unconditionally valid. We do not know objectively the final unconditioned cause, or energy, but we can say that it works in us, so that we know its effects subjectively. We must conceive of it as the bearer of knowledge and thought, and so as subject. The concept of God may be substituted here for that of the unconditioned cause. Religion as the ceoncept of God is thus made a rational problem. Is the world development then a purpose or a caprice of its subject? The unconditioned manifests itself in the nature of things, with respect to which we are not free, and in logical thought, where freedom is demonstrated by the possibility of error. Since we experience regularity in the nature of things, we must assume here purposiveness rather than caprice. So natural science becomes part of the content of religion. I experience my own activity only as effect, as object of my consciousness, but I conclude to myself as free cause of this effect, and so conclude directly to the unconditioned, and thus to the identity between God and myself. Psychology therefore becomes part of the content of religion, and religion as the concept of the relation of man to God becomes a problem of reason. Religion as it has developed in history does not of course rest on a logical construction such as the foregoing. In the history of consciousness, the universal concept develops before the idea of the particular, since the universal affords an image of what is common to single impressions, and so of what affects consciousness most often. Since all error is particular, primitive man tends to exclude error and imperfection from his universals, especially that greatest of imperfections, death, and so arrives at the concept of an eternal being, the type concept of the race (Pflei-

derer), and thus at the idea of God. The theme of religion is always a human experience. In natural religion the problem is one of dependance: How shall we influence God to do us good? The problem is spiritual religion is human freedom: How shall we be free from sin? These questions are always answered in religious fables, which indeed tend to conceal the central fact of religion,—human experience in its relation to God. It is noteworthy however that the four spiritual religions brought a particular man into relation with God and made his life the content of religion. Buddhism solves the problem of freedom by withdrawing man from the life of sense; Islam declares him to be determined by the will of God; Mosaism makes him free under the law, but Christianity conceives love to be the very lawgiver. If we act in love we may err, but we cannot sin. To be free is to be unconditioned, to be unconditioned is to be God. If man is free from the yoke of sin he has returned to God. So true Christianity is not dogma, but a concept of human experience, of man's relation to God.

MARION D. CRANE.

Ueber den Begriff des Naturgesetzes. BRUNO BAUCH. Kantstudien, XIX, 3, pp. 303–307.

Hume rightly remarked that there is no contradiction in supposing, *e. g.*, that snow should cool one day and burn another day. But Kant observed that the possibility of having any phenomenon as a fact depends upon a law of some sort. A scientific experiment would be a mere particularity unless it is assumed to contain universal validity. Pure phenomenon without any possibility of determination, of reproduction, or of control is an abstraction, so that striking out the regularity strikes out the phenomenon itself. It is the very possibility of experiment and science that argues for the existence of a rule. Mere regularity, however, such as that of the meetings of a society, is not a natural law. Kant defines a natural law as a rule in so far as it is objective. As such, it allows no case of exception. Galileo conceived natural laws as empirically discovered determinations of general causal necessity. But he assumed also that nature can be treated mathematically. Both illustrate the point that a natural law is a general complex of categories filled with empirical concreteness. Kant's categories, however, should not be taken as mere forms of thought. Knowledge must refer to objects. The separation of intuition and category must not be taken too seriously. The system of categories is the logical foundation of natural law, though the unity of the particular system of twelve categories should be regarded as a unity through their correlation, and as being capable of development. While the possible development of the system of categories is infinite, it is an infinity which has a constancy and stability, which in fact makes the progress of knowledge possible. Natural laws are special determinations of categories, but are universals with respect to the special cases. They depend not only upon empirical content, but also upon the correlation of the several categories. Helmholtz rightly calls laws general concepts (allgemeine Gattungsbegriffe), but they should be regarded neither

as *res*, nor as mere names or psychological representations, but as logical functions. A confirmation of this is found in the recent tendency in logic and mathematics away from psychologism and positivism. The concept as function is closely related to mathematical functions, which, if not taken too formalistically, must have reference to truth value. Thus, the conception of a variable presupposes some orderly connection of quantities, and a mathematical function is not a mere correspondence of one quantity to another 'arbitrary' quantity, but expresses a definite coördination between one progression of quantities and another progression. A function is different from the value of the function (Funktion-Sein). While every function is a unitary whole as a determining principle, it needs for its completion something to be determined. So with the functional character of the concept, Kant obtained the synthesis between the extremes of regarding the universal as the mere abstract, and hypostatizing it as a metaphysical entity. The concept is not abstract, but *abstrahent*, not concrete, but *concrescent*, *i. e.*, through it alone can the concrete be dealt with scientifically; for the possibility of every special determination depends upon the nature of its universal. The predicate 'equilateral,' *e. g.*, cannot be applied to such a universal as 'circle.' The concept is a positive disjunction that underlies the possibility of being determined, while mere abstractions would mean the negation of all determinations. A natural law, then, must be a concept, *e. g.*, it is the concept of falling as $s = l^2(g/2)$ that the law determines. The logical character of natural law as the ground of the particular assures its objectivity and frees it from psychologism. While all specifications diverge, they converge with reference to the concept, and special historical events are no exceptions. The so-called categorical contingency is a *contradictio in adjecto*. To be sure, the material of knowledge does not coincide with knowing, any more than the value of a mathematical function coincides with the function; but if it is hypostatized as something absolutely real in itself, then it is nothing. The object is not directly given, nor merely given up, but is a product (Ergebnis). With this conceptual meaning of the nature of natural law and of objectivity, one can arrive at the intelligibility of nature as Kant finally did in the *Critique of Judgment*, where he transcends the dualism of form and matter. And even in the science of to-day, and in everyday life, reality is rational if and only if we look at it rationally.

YUEN R. CHAO.

Goethe und die spekulative Naturphilosophie. CARL SIEGEL. Kantstudien, XIX, 4, pp. 488–496.

Fichte holds that all nature is product of the activity of consciousness. Schelling is not satisfied with this view, and expects to find the principles of that activity reflected in objective nature. He finds the principle of triple gradation in the formless, the crystal and the organic bodies, in the lives of the plant, the animal, and the human being, in vegetation, irritability and finally consciousness. He also finds the principle of polarity in the phenomena

of electricity, magnetism, optics, chemism and biology. Proceeding with a wholly different method, Goethe arrives at the same result, namely, that polarity and potency (Potenzierung) are the 'driving-wheels of nature.' Goethe stood in personal relation to Schelling, and his "Metamorphosis of Plants" and his first work on optics which had appeared when Schelling was only 15 and 16 years old, were of no little significance to the Romanticist, whose philosophy of nature, we may well say, is in a sense an attempt to vindicate Goethe's views of nature by means of Fichte's theory of knowledge. These characteristics of nature,—polarity and potency,—play an important rôle in Goethe's various scientific studies, especially in his optics. His study of the art of painting led to his discovery of the law of the antithetic relation between the warm and cold colors. This law, which is a law of color sensations, is, according to him, also valid for the objective world of colors. The idea of potency finds expression in Goethe's conception of a universal type ascending by metamorphosis and pervading the whole organic order. This universal type, according to him, is not only an instrumental scheme for classification and comparison, but also the model after which nature forms her manifold organisms. Here again Goethe draws no dividing line between the subject and objective reality of nature. Thus we may say that Goethe unconsciously did what Fichte and especially Schelling consciously sought to do: namely, to extend to objective reality the categories of the Ego.

Suh Hu.

Nietzsche und Schopenhauer. Dr. Michael Schwartz. Ar. f. g. Ph., XXI, 2, pp. 188–198.

The time has now arrived when an objective estimate of Nietzsche's philosophy can be made, since all the material required for such an undertaking is at hand. Nietzsche's literary remains, and especially his correspondence with Erwin Rohde and Peter Gast, afford us a deep insight into the inner workings of his mind, and help toward an understanding of his philosophical significance. In view of these writings it becomes clear that his development was a continuous and logical growth, so that the customary division of his career into three distinct periods will have to be given up, or at least greatly modified. His long-awaited autobiography has also appeared. This most interesting human document is not the conventional narrative, but rather a history of Nietzsche's spiritual development. In spite of the fact that Nietzsche rejected Schopenhauer's doctrines, he was strongly influenced by this philosopher. Nietzsche's earliest philosophy, and indeed, the views expressed in his *Geburt der Tragödie*, are merely a working over of the third book of Schopenhauer's *Die Welt als Wille und Vorstellung*. In this so-called first period of his development he accepted, in their essentials, Schopenhauer's Metaphysic of Will and his Pessimism. But while Schopenhauer held to two ways of salvation from the evil of the world, through art and through morals, Nietzsche held to the former alone, giving it his own peculiar interpretation. In the so-called middle period of his activity, the 'positivistic,' he still re-

mained under Schopenhauer's influence. He held, in agreement with his predecessor, that Reason is merely the instrument of the Will, and never tired of pointing out the irrationality and alogicality of ordinary human life. And again in the third and most fruitful period of his activity, his doctrine appears to be merely a development and extension of the second book of Schopenhauer's *Welt als Wille und Vorstellung*, that is, his Metaphysics of Will. In the chief works of this period Nietzsche raised the "will to live" to a universal principle, and it became the "Will to Power." It thus appears that he was dependent upon Schopenhauer throughout his life, and to this is due the unity and coherence of his productions. He took over from Schopenhauer the problem of the value of life, but became the defender of life in opposition to the former. In the *Biodocee*, the central point at which all the threads of his philosophy are gathered up, we discover that he views his life-work as divided into two parts, the Metaphysical-Aesthetic, and the Naturalistic-Aesthetic. Both are described as "Dionysian." Thus he speaks of his *Geburt der Tragödie*, in which the Dionysian exaltation of life (*Lebensbejaung*) first appears, as his first "Transvaluation of all Values." This is indeed, a central thought in all his writing. There appears to be some difficulty in reconciling the doctrine of the recurring cycles of existences with the idea of the *Übermensch*, for the latter requires a continuous development toward the Beyond-man or a goal, with which the notion of a circular progress seems to conflict. Zarathustra, it may be said, is a type of the superman, who at that time he regarded as a product of natural selection. But in his last book (*Der Wille zur Macht*), he comes to reject natural selection, and to substitute what we may call spiritual selection. The weak will be unable to endure the thought of the return to life, with all its suffering and sacrifice, and will accordingly be rooted out, while the strong will seek to impress their lives with the seal of eternity, and will become strong through struggle. The idea of the cycles of existence will thus become the instrument of a spiritual selection, and produce the Beyond-man. Thus Nietzsche's development seems to have consisted in the growth of the idea of the Dionysian *Lebensbejahung*, which, he said, was original with the Greeks, and expressed in the Dionysian mysteries. He opposed his belief in life, and in spiritual development through the joyful acceptance of life's challenge, to the Christian ethics which, in his opinion, damned life in the interests of an other-worldly ideal. Nietzsche is indeed, as Joel has remarked, a priest of Bacchus. That exaltation of life, that joy in living which reaches the ecstacy of intoxication, which is the secret of his personality and of his philosophy, is truly Bacchantial. Nietzsche is the resurrected Dionysius.

D. T. HOWARD.

L'intérêt. L. CELLÉRIER. Rev. Ph., XXXIX, 12, pp. 491–512.

Educators since the time of Socrates have recognized the importance of interest to the art of teaching, but they have been slow in its psychological study as a means of promoting their work. Current theories of interest such

as the Herbartian, the affective theory of Lippe, or the spontaneous attention doctrine of Dewey, emphasize different elements of the phenomenon and so confuse and mislead one. In the presence of such conflicting views direct study of facts by introspection and by observation of other persons is necessary for a complete theory. Such studies performed, advisedly on children, indicate that interest is not, like sensation, a simple state, but is rather a complex process involving perception of an object, recognition of its capacity to satisfy an instinctive tendency, and the consequent holding of attention upon the object. Hence interest has elements of attention and feeling, but is neither of these alone. It is a subjective state aroused by objects; therefore we have interest, rather than different interests. Sub-conscious elements of our life, directing us to our instincts and needs, may become conscious and tangible in states of interest. Interest involves the selection of objects on the ground of their capacity to satisfy instincts and desires. Variation in such capacity causes a variation of interest. The instincts involved are definite ones, like hunger or fear, rather than indefinite tendencies; however, the instincts for the acquisition of knowledge and for activity may be regarded as general elementary tendencies furnishing the most of the early occasions for the manifestation of interest. The distinction between direct and indirect interest is illusory; considered as a process it is indirect; considered in relation to its object it is direct. The instinct for activity is most basal and other instincts develop only gradually. With such development abstract thought becomes possible, and, on such conception of the growth of instincts and intellect, educational practise should be founded.

C. CECIL CHURCH.

The Mind's Knowledge of Reality. GEORGE P. ADAMS. J. of Ph., Psy., and Sci. Meth., Vol. XII, 3, pp. 57–66.

No knowledge is possible unless the mind can somewhere come into direct and immediate contact with real being, and know that this, its possession, is indeed knowledge, know what it means 'to be real.' This primitive knowledge must be immediate, *sui generis*, self-supporting, and unquestioned. Yet, all that is directly and indubitably certain about any immediate experience is that it is not real being, but presentation, idea, or content of consciousness. An 'immediate experience' is not equivalent to an 'object known to be real.' To ascribe reality to an object requires, in addition to an immediate experience, an assertion that that incident is true or points to the real; or, in other words, involves an *evaluation* of immediate experiences. But every qualitative distinction (such as that of truth and falsity) made within a given class of objects (such as immediate experiences) implies a reference to something outside that class as a standard or basis of evaluation; and a knowledge of this standard is presupposed by any judgment which asserts the existence of such qualitative distinctions. The character of true experiences must be known before the true and false can be discriminated, and the mind making the appraisal must have possessed a knowledge of reality

which is not an awareness of its experiences. Knowledge of what reality means cannot be acquired from experience, for that experience, if known to be valid or real, requires a prior knowledge of what 'to be real' means. An immediacy other than experience is necessary to make intelligible this original knowledge. Immediate experience cannot furnish the direct and primative contact with reality which knowledge presupposes. We must have recourse to the concept of *a priori* ideas, a knowledge of reality different in kind from the presence of content in experience, an underived, unacquired function of the mind, making experience significant and the life of reason possible. If an object of experience can be known to be real, it is because the mind first knows what 'to be real' means, and thus equipped, finds an instance, an illustration of reality in immediate experience.

RAYMOND P. HAWES.

Where do Perceived Objects Exist? D. DRAKE. Mind, 93, pp. 29–37.

To assert that the peculiarities of perceived-objects are due to well-known optical laws or are physically explicable is no answer to the question: "Where do they exist?" To say that perceived-objects (such as the drab tree of the colour-blind man) occupy the same portions of space simultaneously with alien real-objects, fails to explain why perceived-objects are not efficacious there; why they cannot be discovered by others than the particular perceiver; and how they were mysteriously projected out into the world, since they bear the ear-marks of a particular organism, and are undeniably functions of that organism's brain-process. To conceive of reality as any number of interpenetrating spaces, does not account for the fact that science finds but a single temporal-spatial order. To locate perceived objects in some *terra incognita* outside the natural order leads to ontological dualism and is no better than confessing them mental. Representative Realism can include perceived-objects, and indeed all known facts, in one coherent, homogeneous, natural order, and explain consciousness and illusions, without implying a dualism of substance, or an absolute cleavage of the physical and mental. Representative Realism locates perceived objects, not at the real-object point, but at the brain-point of the world order. Perceived-objects are each an effect and representation in a different organism of the one real-object beyond the organisms. They vary concomitantly with variations in the real object, and act as functional substitutes (not miniatures, copies, or pictures) of the real-object in the lives of the organisms. Any real-object is outside a real brain; and its representative, the perceived-object, is outside the perceived-brain; but the perceived-object is inside the real-brain or consciousness of the percipient. What a bystander would describe as a brain process exists in his own real-brain or consciousness; and represents the real-brain or consciousness of the person perceived. There are representations of past and future events and of absent objects. Consciousness is a group name for these organically interwoven elements, and is composed of the same stuff as the rest of the world, and was evolved from it. The mechanism of memory and the close

causal connection of its elements constitute its unity. We know directly only representations or perceived-objects. We can never be absolutely certain that there are any corresponding real-objects. But we must assume the latter in order to explain the peculiarities and fragmentary character of the former.

RAYMOND P. HAWES.

Religious Values. RALPH BARTON PERRY. The American Journal of Theology, XIX, 1, pp. 1–16.

The central theme of every serious philosophy of religion is the *conflict* of religious values, and we must have a principle of reconciliation or of rational choice: we must have a unit or standard of value enabling us to estimate the varying reports of different religious philosophies respecting the good that man has inherited and can expect. The present article purposes to suggest a way of applying to the study of religion such an empirical analysis and classification of values as that of Meinong and his followers. There is 'value' when there is "having of what one likes" or "getting of what one wants" or "the fulfilment of interest." "The fulfilment of an interest, including interest, object, and the peculiar relation between them, may be called an *intrinsic* value, in the sense that such value does not involve reference to anything beyond itself; whereas any means or condition of such fulfilment would be an *extrinsic* value." Extrinsic values are *real* if they are objects that exist independently of the interested subject's consciousness of them; *ideal*, if they are imaginative representations of real objects of interest. Extrinsic values are *immediate* if they are objects that fulfil interest indirectly, are wanted for themselves; and *instrumental* if they owe their value to their efficacy in producing objects of immediate interest. If cosmic reality consists of or contains the fulfilment of some interest, it possesses intrinsic value; but it is its extrinsic value, its relation to the fulfilment of human interests, that constitutes its *religious* value. Ultimate cosmic forces are real religious values, and the works of the cosmic or religious imagination, ideal religious values. Any type of cosmic reality would have a real, immediate, religious value in fulfilling the contemplative, intellectual, cognitive or philosophical interest of wonder, curiosity, or the desire to know and to see what unity and order there is in the world. But it requires a particular sort of a cosmic reality, a concordant reality or another mind or an unfailing companion, to have such value for the æsthetic and social interests. In so far as man owes to the nature of the cosmic reality all things affecting human interests, cosmic reality has a real instrumental religious value, positive or negative in proportion as these things are good or bad. Ideal, immediate and instrumental religious values attach to objects created by the cosmic or religious imagination, and may consist of true belief-values, subjective belief-values, or conscious fictions. Examples of ideal religious values are belief in the supremacy of spirit or the triumph of the good, or symbol and myth. Furthermore, ideal religious values may be positive or negative, good or bad, according as

they are wholesome or morbid, depressing, and misleading. In their relation to other or *secular* values, religious values may be *auxiliary*, facilitating the fulfilment of secular interests; *disciplinary*, correcting and reducing the demands of the secular life by stressing the fact that in the nature of things only a few of life's interests can be fulfilled, and this at the cost of the renunciation of the rest; or *compensatory*, substituting new interests, goods, and hopes for secular losses, evils, and failures.

RAYMOND P. HAWES.

The Pulse of Life. EDGAR A. SINGER, JR. J. of Ph., Psy., and Sci. Meth., XI, 24, pp. 645–655.

Mr. Singer has set forth on other occasions the theory that life and mind must be defined in terms of behavior, whether observed or expected. This method of interpretation has appeared revolutionary to some, and in order to justify it, he feels called upon to picture life as it appears to one who holds to definition in terms of behavior. What is the relation of life to mechanism? The world as mechanism seems widely separated from the world as the medium of life. To bridge over this chasm, many inventions have been produced by philosophy, the most notorious of which are: (1) that which attempts to make life consistent with mechanism by making life mechanical, and (2) that which tries to make mechanism consistent with life by making mechanism alive at every point. The first account is materialistic, the second monadistic. Materialism fails, because it cannot account for purpose. Any given individual may be classed either with or without reference to purpose. A triangle, ateleologically defined, *must* be three-sided and a plane, it *may* be the best form for a given fashion of musical instrument. A musical instrument, teleologically defined, *must* be capable of producing a pleasant sound, and *may* have the structure of a triangle. According to these two ways of definition we get teleological and ateleological sciences. With regard to a living being, which is it, a thing of purpose or a mechanism? Evidently both. Mechanism fails to explain life, because the latter does not come under the ateleological concepts. In the case of monadism, there is also a failure to account for purpose, for the essence of purpose is freedom. The invariance of purpose in a variety of mechanical situations is freedom. Now in a system whose points are mechanically connected there is no room for freedom. Life then must be a phenomenon of the whole group of points. How can a kind of grouping introduce freedom into a system whose points are not free? If we regard reality as an "infinite sea of mechanism," and purpose as a certain wave-like form or pulse passing through the whole as a wave through water, we get an effective analogy. This purpose may be further described as self-preservation. A science of life, on such a conception, must regard purpose as the average common result of a type of act. It will be the science of the probable in the domain of self-preservative behavior. Most of the activities of the living being, it appears, tend to maintain life, as the various parts of a wave movement continue the movement as a whole.

D. T. HOWARD.

Philosophical and Social Attitudes. JOHN PICKETT TURNER. J. of Ph., Psy. and Sc. Meth., Vol. XI, 25, pp. 687–691.

Belief in human progress is a modern attitude of mind. In the Homeric age, not men, but gods won the battles. Later, both in India and Greece, we find *man's helplessness* wrapped up in the doctrine of eternalism. Note that the Euclidian conception points to a completed world beyond our perception; and that the central doctrine of Stoics and Epicureans alike is *self-control;* while, in Christianity, not only nature and the social order, but human nature as well, are beyond man's power to regulate. Due, however, to man's original predisposition to manipulate things and his consequent, though largely accidental, success in science, we have entered upon an age of freedom,—of power over natural forces; and eternalism has ceased to hold sway over metaphysics.

ALLEN J. THOMAS.

Natural Rights and the Theory of the Political Institution. GEORGE H. MEAD. J. of Ph., and Sci. Meth., XII, 6, pp. 141–155.

Since the eighteenth century it has become possible to revolutionize the government by taking proper legislative and judical action: it is more difficult to change the customs and attitudes of the community itself and to this end current reforms are directed. Declarations of rights like that of the French constitution of 1795 seem to embody self evident principles but for us they lack definite content because the inherited dynastic power that stimulated them is no longer a condition which we face. They are abstract because that to which they refer needs, for us, only to be designated, not analytically defined. The political and economic individuals that seem to us so abstract were, in their day, concrete, every-day persons. They were designated by reference to hindrances to what, in the thought of the speculators, seemed vital activities. For Spinoza an understanding of the individual was largely an account of the emotions which were to be overcome, not an account of the positive content of reason, *i. e.*, a mystical emotion. Hobbes, likewise, defined the individual in terms of hostile impulses threatening a warfare between all men, not in terms of the social state to which man rightfully belongs. Locke and Rousseau continued to express the rights of man in terms of negative conditions; and they left the good unformulated. In the struggle of labor for the right to combine, the contests have always been over specific restrictions Rights are always formulated in this way; thus their essential character is not revealed. Studies in the history of human culture show that rights did not exist prior to their recognition in society. Society gives the right its recognition. We are brought to the question of what beyond its recognition is involved in a right. In the notion of the common good as the end of both society and the individual we have a conception arbitrary to neither of these units. There is no limit to such common goods, and so no limit to rights, but they depend on circumstances and cannot be permanently formulated. In case of a variance between a common interest and an institutionally vested

right, the latter should give way to the former. Institutions are but the tools of a community; they are not civilization or ends in themselves. Concrete common needs are the basis of true rights. In case of doubt as to whether apparently common needs are really genuine, it may be well to have the institution help decide, but it should not be allowed to hinder such a discision. Institutions of government must give way to common human needs.

C. CECIL CHURCH.

On Having Friends: A Study in Social Values. GEORGE A. COE. J. of Ph., Psy., and Sci. Meth., XII, 6, pp. 155–161.

The few studies of social values that have been made have confined themselves to the actions of children and crowds: developed minds have rarely been the objects of direct attention in this connection. This article aims to suggest the problems concerning adult social acts and attitudes by examining the familiar experience of having a friend. Analysis of experiences of intimate friendship show that the friend himself, not the advantages he gives, is the valued object. Friendship is anthitetical to barter. The giver of the gifts experienced in friendship is valued above his gifts because he has experiences of his own. His experiences are valued. Friends have one another. Social psychology has rarely tried to analyze the value thus realized. It has examined such processes as suggestion; it has given a genetic account of social intercourse; it has shown that such an experience implies the knowledge of other minds and refutes the atomic theory of mind. With the fact that social experience means multiple experience, social psychology has done but little. The description given by functional psychology evades this problem when it treats consciousness merely as a means of adjustment: we adjust ourselves *to* consciousness, not merely through it.

C. CECIL CHURCH.

NOTES.

Professor Maurice De Wulf, Professor of Philosophy at Louvain, and member of the Belgian Academy, has accepted the invitation of Harvard University to lecture on Philosophy during the first half of the academic year, 1915–1916, and will begin his work in September, 1915.

The subjects of his courses will be History of Medieval Philosophy, and Aristotle's Metaphysics.

Professor De Wulf is the well-known editor of the Revue Neo-Scholastique. Two of his works have been translated in English—*The History of Medieval Philosophy* and *Scholasticism*.

Professor Bernard C. Ewer of Reed College will go to Brown University next year as locum tenens in philosophy during the absence of Professor Everett.

We give below a list of articles in current philosophical magazines:

MIND, N. S., 93: *F. V. Merriman*, The Rise and Fall of the Platonic Kallipolis; *O. Strachey*, Mr. Russell and Some Recent Criticisms of his Views; *D. Drake*, Where do Perceived Objects Exist? *P. Narasimham*, The Vedantic Good.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, XII, 3: *George P. Adams*, The Mind's Knowledge of Reality; *George Santayana*, Some Meanings of the Word Is; *John E. Russell*, Professor Hocking's Argument from Experience.

XII, 4: *Garry C. Myers*, Affective Factors in Recall.

XII, 6: *George H. Mead*, Natural Rights and the Theory of the Political Institution; *George A. Coe*, On Having Friends: A Study of Social Values.

THE PSYCHOLOGICAL BULLETIN, XII, 2: *R. M. Ogden*, Report of the Secretary of the American Psychological Association; *W. C. Ruediger*, Report of the Retiring Secretary of the Southern Society for Philosophy and Psychology.

XII, 3: *L. W. Sackett*, The Sequence of Topics in Beginners' Psychology.

THE PSYCHOLOGICAL REVIEW, XXII, 1: *R. S. Woodworth*, A Revision of Imageless Thought; *Knight Dunlap*, A New Measure of Visual Discrimination; *John W. Todd*, An Electro-Mechanical Chronoscope.

REVUE PHILOSOPHIQUE, XL, 1: *Dr. G. Dumas*, La contagion de la folie; *A. L. D.*, La paramnésie et les rêves.

XL, 2: *Dr. Grasset*, Les sciences morales et sociales et la biologie humaine; *L. Dauriac*, Le language musical; *N. Kostyleff*, Sur la formation du complexe érotique dans le sentiment amoureux.

ARCHIVES DE PSYCHOLOGIE, XIV, 56: *A. Descoeudres*, Couleur, Forme ou Nombre? *V. Cornetz*, Fourmis dans l'obscurité; *P. Bovet* et *S. Chryssochoos*, L'appréciation 'objective' de la valeur par les echelles de Thorndike; *C. Huguenin*, Reviviscence paradoxale.

KANT-STUDIEN, XIX, 3: *Bruno Bauch*, Über den Begriff des Naturgesetzes; *Ernst Curtius*, Das Schematismuskapitel in der Kritik der Reinen Vernunft; *Heinrich Scholz*, Zu "Alexander von Joch"; *Hans Pichler*, W. Windelbands Einleitung in die Philosophie.

XIX, 4: *E. Gehrcke*, Die erkenntnistheoretische Grundlagen der verschiedenen physikalischen Relativitätstheorien; *C. Siegel*, Goethe und die spekulative Naturphilosophie; *A. Rava*, Fichte und Reimer; *A. Leibert*, Bericht über den ersten Kongress für Ästhetik und allgemeine Kunstwissenschaft; *Bruno Bauch*, Parallelstellen bei Hume und Kant.

ARCHIV FUR GESCHICHTE DER PHILOSOPHIE, XXI, 2: *Dr. J. Zahlfleisch*, Einige Bemerkungen zum Intellektualismus an der Hand des Leibniz-Clarke'schen Streites; *Carl Fries*, Zur Methodologie des geschichtlichen Denkens; *Dr. Michael Schwarz*, Nietzsche und Schopenhauer.

ZEITSCHRIFT FUR PSYCHOLOGIE, LXX, 5 u 6: *Stefan Baley*, Versuche über den dichotischen Zusammenklang wenig verschiedener Töne; *Stefan Baley*, Versuche über die Lokalization beim dichotischen Hören; *Hans Henning*, Das Panumsche Phänomen.

LXXI, 1 u. 2: *Konrad Lambrecht*, Über den Einfluss der Verknüpfung von Farbe und Form bei Gedächtnisleistungen; *Karl Groos*, Untersuchungen über den Aufbau der Systeme; *Otto Schultze*, Über Lernzeiten bei Grösseren Komplexen.